

**EPA Docket Center (Air Docket)  
U.S. Environmental Protection Agency, 1301 Constitution Ave., N.W., Room: B108,  
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Washington, DC, 20004**

**Attention Docket ID No. A-2002-04**

**Prevention of Significant Deterioration (PSD) and Non-attainment New Source review  
(NSR): Routine Maintenance, Repair and Replacement: Proposed Rule**

**Environment Canada**

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## Introduction

Environment Canada is pleased to submit comments in response to the U.S. Environmental Protection Agency (EPA) proposal in the *Federal Register* notice of December 31, 2002 Docket No A-2002-04 entitled “Prevention of Significant Deterioration (PSD) and Non-attainment New Source Review (NSR): Routine Maintenance, Repair and Replacement”.

### Context

In 1991, Canada and the U.S. signed the *Air Quality Agreement* (AQA), which codified the principle that countries are responsible for the effects of their air pollution on one another, and confirmed the commitment of Canada and the U.S. to consult and develop the means to deal with any existing transboundary air pollution problems. Since 1991, through the bilateral mechanism of the Canada-U.S. Air Quality Committee, cooperation and collaboration on matters of interest and concern to both Canada and the U.S. has been extensive and effective.

Environment Canada has reviewed the NSR reforms and this proposal with interest for two reasons. First, there are lessons to learn from the U.S. experience. In Canada, principles of pollution prevention, continuous improvement and keeping clean areas clean are part of the Canada-Wide Standards agreed to by Canadian governments in 2000. “Keeping clean areas clean” recognizes that polluting “up to a limit” is not acceptable and that the best strategy to avoid future problems is to keep clean areas clean. Continuous improvement applies in areas with ambient air quality levels below the levels of the standards but still above the levels associated with observable health effects. Canadian jurisdictions are encouraged to take remedial and preventative actions to reduce emissions from anthropogenic sources to the extent practicable. A multi-stakeholder working group has been established to develop a national Guidance Document on Continuous Improvement and Keeping Clean Areas Clean for PM and Ozone.

The second reason for Environment Canada’s interest in the NSR program stems from a concern about “grandfathered” industrial plants and power plants and the impact of changes to the NSR program on the reduction of their emissions.

### Grandfathered Coal-fired Power Plants

It is our understanding that there are large disparities in pollution levels among U.S. power plants operating today stemming largely from a provision in the Clean Air Act that exempts, or “grandfathers,” older plants from meeting the same emission standards that must be met by modern plants. We know that in 1970, Congress exempted already existing power plants from the new, more stringent emissions standards when it passed the Clean Air Act. It did so with the expectation that the useful life of the typical power plant was 30 years and that these “grandfathered” plants would be retired and replaced with cleaner burning plants.

Our understanding is that shifts in technology and economics have resulted in many of the grandfathered power plants continuing to operate well beyond their 30-year projected lives,

free of emission standards imposed on modern plants. In fact, we are of the impression that a rough estimate of fossil capacity in the U.S. that is “grandfathered” or exempt from NSR and New Source Performance Standards (NSPS) is approximately 85 per cent.

The NSR program is a powerful tool. The fact that EPA, in recent years, has filed NSR “enforcement” lawsuits against a substantial number of “grandfathered” industrial plants, including power plants, is of interest to Environment Canada. In particular, we noted the announcement by the U.S. Attorney General, on January 15, 2002 that the EPA’s NSR enforcement actions against certain facilities, such as power plants and oil refineries, were consistent with the Clean Air Act and that ongoing prosecutions would proceed. Clearly, while the EPA may have had concerns about the enforcement of the provisions of the NSR program, when it is enforced, it can be a significant instrument through which to affect emissions from existing facilities.

The locations of the plants that were “targeted” by EPA through the NSR “enforcement” lawsuits and other actions have also been of considerable interest to Environment Canada. Many, if not most of the plants appear to be located in the Midwestern states which comprises an area of the United States from which transboundary smog and acid rain pollution affecting Canadians living in eastern Canada originates.

## **US EPA PROPOSED RULING**

Generally speaking, as Environment Canada understands the NSR program, the Clean Air Act requires that if a large facility is modified such that its emissions increase significantly, it must obtain a preconstruction permit specifying the state-of-the-art pollution control equipment it must use. But not every modification of an existing facility that impacts emissions requires preconstruction review. Instead, an exception exists for “routine maintenance, repair and replacement.” We understand that the implementation and definition of this exception has, in fact, been an important issue in EPA’s NSR “enforcement” actions.

The December 31, 2002 NSR proposal addresses the routine maintenance, repair and replacement issue. The proposal is for two categories of activities that will be considered routine maintenance, repair and replacement (RMRR) activities: 1) activities within an annual maintenance, repair and replacement allowance, and 2) replacements that meet a set of EPA criteria for the replacement of existing equipment.

Under the proposal, when an activity falls within either of these categories, it would be considered RMRR and would be excluded from NSR. When an activity did not fall within one of these categories, then it still could qualify as routine maintenance, repair and replacement under a case-by-case test.

## PROPOSED PROVISIONS

### *Routine Maintenance, Repair and Replacement (RMRR) Allowance*

The proposed rulemaking would “allow certain activities engaged in to promote the safe, reliable and efficient operation of a facility – that is, those that involve relatively small capital expenditures compared with the replacement cost of the facility – to be excluded from NSR provided that total costs did not exceed the annual maintenance, repair and replacement allowance.” The proposed approach would establish for each stationary source an allowance for maintenance, repair and replacement – whether annually or in a multi-year format will depend on the results of the comments received by EPA.

Essentially, if total costs for relevant activities are less than the RMRR allowance, then the activities would be exempt from NSR. If total costs, however, exceed the allowance, then the owner or operator would have to deduct the costs of the projects, in decreasing order of expense, until total relevant expenditures fell within the allowance. The large projects that were not covered by the annual allowance might still qualify as RMRR under the traditional case-by-case approach. But any of the most expensive changes that failed the case-by-case test would be considered “major modifications” subject to NSR only if they were to result in significant net emissions increases.

EPA has suggested that the allowance would be an industry specific cost-threshold calculation, the basis for which, EPA is requesting comment.

The EPA is proposing to exclude the following from the use of the annual allowance:

- Construction of new “process units or the replacement of an entire process unit;
- Any change that would result in an increase in the source’s maximum achievable hourly emissions rate of any regulated NSR pollutant or in the emission of any regulated NSR pollutant not previously emitted by the stationary source.

### Questions and comments:

The starting premise underlying the following questions and comments is that EPA’s revisions to NSR and the RMRR rule revisions are intended to fulfill the basic goals of improving air quality and minimizing emissions that Congress wrote into the Clean Air Act. The first question, therefore, relates to the RMRR proposal preambular statement that “none of the proposed provisions related to the RMRR exclusion will have a significant impact on emissions from the power sector.” If the modifications to the RMRR rule will result in holding the line on emissions from the power sector, will this result be sufficient or would emission reductions be a more effective response in terms of the overall goals for the NSR program? Where Canada is concerned, emission reductions from the power sector in the United States will be essential as we move forward to meet the Canada Wide Standards in regions of the country where there is significant transboundary flow. One way to achieve these needed reductions might be to tighten up the RMRR rule revisions.

The second comment relates to the RMRR proposal to remove the “routine” from the RMRR exemption. While the existing RMRR rule allows an exemption from the “modification” provision of the CAA for *routine* repair, maintenance and replacement activities, the proposal drops the “routineness” requirement from its annual cost allowance and equipment replacement safeguards. Activities that are unusual and non-routine would qualify for exemption from NSR as long as the other criteria of the exemptions are satisfied. Is there a specific rationale for dropping the “routineness” concept when, as it is understood in Canada, this concept has been a central element of the RMRR exemption since EPA originally adopted it in 1980?

Finally, we have several further questions for consideration.

Using a cost-threshold approach, are there some low-cost projects that could in fact increase emissions significantly? Particularly with respect to the higher end of the threshold range, would a cost-threshold approach provide an allowance that is so high that facilities could proceed with modifications to parts of process units without triggering New Source Review or a case-by-case review? Is it possible that some projects that fall within an annual maintenance, repair, and replacement allowance, and that comply with the proposed hourly emissions safeguard, could nevertheless result in significant net emissions increases (in tpy) in any NSR-regulated pollutants? Even with the submission of annual reports to the appropriate reviewing authority after the end of the year over which activity costs have been summed, could there be disagreements regarding the way in which the RMRR allowance has been used and, if there are, is there a straightforward avenue for resolution?

### *Equipment Replacement Provision*

In addition to or instead of the proposed RMRR allowance, the proposed ruling also outlines an equipment replacement provision. Under this provision, existing equipment may be replaced with equipment that serves the same function and that does not alter the basic design parameters of a unit. This approach would also qualify for RMRR treatment provided the cost of the replacement equipment does not exceed a certain threshold percentage of the cost of the process unit to which the equipment belongs.

The cost threshold proposal is that the threshold be specified using, for example, the approach taken in the New Source Performance Standard (NSPS) program. In the NSPS program, a project at an existing affected source triggers the NSPS requirement to meet the current performance standard when the cost of the project exceeds 50 percent of the fixed capital cost that would be required to construct a comparable entirely new unit. Other lower percent reconstruction thresholds are also being proposed as suitable lines of demarcation.

### Questions:

If this provision is adopted or adopted with the annual maintenance, repair and replacement allowance proposal, will there be the risk of major work proceeding without NSR or a case-by-case review if no one piece of equipment exceeds a specified cost threshold that would be set? Further, if this proposed RMRR rule is adopted, will the equipment replacement provision of the proposed rule be subject to the same three safeguards that apply to the annual maintenance, repair, and replacement allowance? More specifically, will projects be

able to qualify for the equipment replacement exclusion only if they will not lead to an increase in a source's maximum achievable hourly emissions rate of regulated pollutants or in the emission of new regulated pollutants?

### *Other Options Considered*

In the proposed ruling two other options were discussed as alternatives to the cost-based approaches:

1. Capacity-Based Option - an owner/operator could undertake any activity that did not increase the capacity of the process unit; and
2. Age-Based Option - process units under a specific age could undergo any activity that would not increase the capacity of a process unit on a maximum hourly basis without triggering the requirements of NSR program. However, the activities could not constitute reconstruction of the process unit and their cost could not exceed 50 percent of the cost of a replacement process unit. The age of the process unit would likely be in the range of 25-50 years after which the owner or operator would have to become a "Clean Unit" once the age of a process unit exceeded the age threshold.

### Questions:

Would a combination of a cost threshold and a capacity-based approach hold any value as the basis for defining the RMRR allowance? With an aged-based approach, at what point in the age of the facility would the owner or operator no longer consider expenditures worthwhile for important maintenance and efficiency activities? With respect to the capacity-based option, are there activities that would be excluded that would increase emissions? Is it possible that some projects that fall within a capacity-based exclusion and that comply with the proposed hourly emissions safeguard could nevertheless result in significant net emissions increases (in tons per year) in any NSR-regulated pollutants?

### *Cost-based Approach in general*

It would appear that the use of the cost-based approach used in both the *Routine Maintenance, Repair and Replacement (RMRR) Allowance* and *Equipment Replacement Provision* proposed "safe harbours" may result in an uneven application of the RMRR exemption. Because exempt activities under both safe harbours would be limited to a cost determined in part by the replacement value of the relevant facility or production unit, the scale of exempt activities will be proportionally greater at larger and more valuable plants. Thus, a certain project may be deemed an exempt maintenance, repair, or replacement activity if undertaken at a plant worth hundreds of millions of dollars, but a project of the same scope and nature might not be exempt if undertaken by a smaller facility.

### *Additional Exemptions*

In the proposal, comments are also requested with respect to establishing additional exemptions. Specifically, the proposal indicates that there may be rare instances where activities do not involve replacing existing equipment, are not otherwise excluded from NSR, and nevertheless promote efficiency. The question is asked whether there is a need for a

separate “stand-alone” exclusion for such activities and, if so, whether there should be other limitations on the scope of such activities. Further, EPA is asking for comment on how to treat activities that result in a minor improvement in efficiency but a very large increase in annual emissions?

Is it possible that the adoption of “stand alone” exclusions from the coverage of the NSR program could create uncertainty and opportunity for interpretation by regulators and industry users of the NSR program?

### **Transboundary air pollution resulting from the proposals**

EPA describes the analyses undertaken to assess the emission impact resulting from a number of RMRR exclusion scenarios. The conclusion of the description of the results of the analyses done with the Integrated Program Model (IPM) is that “regardless of which scenario is closest to what comes to pass, none of the proposed provisions related to the RMRR exclusion will have a significant impact on emissions from the power sector.” Further analyses are described using the National Energy Modeling System (NEMS). The results of all of the analyses indicate that the emissions changes attributable to future promulgation of a rule based on the proposals made for RMRR are insignificant in comparison with the impact of the Clean Air Act programs such as the Title IV Acid Rain program, the Tier 2 motor vehicle program and the NOx “SIP Call” ozone transport program.

There was no explicit analysis or consideration, however, of the impact that the proposals would have on “grandfathered” coal-fired power plants in particular or on the emissions from geographic regions such as the Midwest where many of the old power plants and industrial facilities are located. Such analyses would be important not only for assessing possible U.S.-Canada transboundary air pollution consequences but also the possible air pollution transport impact that could exist within the United States between the Midwestern states where many of the “grandfathered” plants are located and the northeastern states.

### **Conclusions**

Clearly, the intent of the EPA proposals with respect to routine maintenance, repair and replacement is to provide greater certainty to owners and operators of existing facilities when they consider how to work within the NSR program. The questions being posed in this comment are intended to offer constructive support in the discussion.

In addition, Environment Canada is interested in seeing analyses undertaken of the predicted results of the NSR proposals as they relate to the “grandfathered” power plants and other facilities built before 1971. Such analyses should attempt to assess both the U.S.-Canada air pollution consequences as well as the interstate transport results of the proposals.

All information requests should be directed to:

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