Equivalency Demonstration
Comparison of State and Federal Non-Attainment and Prevention of Significant Deterioration Rules

I. Introduction:

On December 31, 2002 (Fed. Reg. 80186) and October 27, 2003 (Fed. Reg. 61248), EPA revised its New Source Review (NSR) programs required by parts C and D of Title I of the Clean Air Act. These revisions modified several aspects of the federal rules for determining whether a physical change at an existing major stationary source would be considered a major modification and thus whether the substantive requirements for triggering approval of a permit application would apply (hereinafter "NSR Rule"). Two of the revisions – Pollution Control Projects and Clean Unit Exemptions - were vacated on June 24, 2005 by the U.S. Court of Appeals for the D.C. Circuit. The Court also remanded to EPA the recordkeeping and reporting requirements of the NSR Rule to the extent that sources were not required to keep records unless they met three criteria, including a "reasonable possibility" that a project may result in a significant emissions increase. Requests for rehearing of the decision were recently denied.

This submission demonstrates that NSR rules to be proposed by the State of New Hampshire Department of Environmental Services ("NHDES") are at least as stringent or more stringent as the remaining aspects of the federal NSR Rule, as discussed in more detail below.

II. Background:

In general, the NSR program aims to ensure that air quality does not decline in certain localities, and that air quality is not significantly degraded in other areas. A fundamental tenet of the NSR program is that modern pollution-control equipment should be installed upon construction of the major source facility or when a modification is made that significantly increases emissions from an existing major source facility. NSR requires the issuance of permits for new plants and for significant modifications of existing plants before construction begins, permitting the new plant or modification only if proposed pollution-control measures reflect the best available control technology.

NSR is comprised of two separate programs: Non-attainment Review and Prevention of Significant Deterioration (PSD). Non-attainment Review applies in areas where the established National Ambient Air Quality Standard (NAAQS) for a regulated pollutant is not being met, i.e., "non-attainment" areas. (Non-attainment Review for sources of certain pollutants also applies in the federally designated ozone transport region, which consists of eleven northeastern states.) PSD applies to major sources located in areas where the NAAQS for a regulated pollutant is being met, i.e., "attainment" areas. Because non-attainment areas have poorer air quality, Non-attainment Review requirements are generally more stringent than PSD requirements.

In general, state and local air-pollution-control permitting authorities administer the NSR program. Each state or local authority is required to incorporate basic program requirements into its state implementation plan (SIP), which functions to ensure progress toward the attainment or maintenance of all NAAQS. A state's NSR program may be approved either by incorporation into a SIP approved by EPA or by the Agency's delegation of the program to the state. A state-designed program may be approved by EPA if it meets the criteria listed in federal regulations. Otherwise, the state may request delegation of the federal NSR program, as specified in the federal regulations.

The NSR Program in New Hampshire is implemented and enforced by NHDES under New Hampshire Revised Statutes Annotated 125-C. NSR requirements of the Statewide Permit Program are contained in Chapter Env-A 600. More specifically, Part Env-A 618 contains requirements for the Non-Attainment Review portion and Part Env-A 619 contains requirements for the Prevention of Significant Deterioration (PSD) portion of the federal NSR program. Both the Non-Attainment Review and PSD programs in New Hampshire are SIP-approved programs. Both of these programs essentially incorporate by reference the federal NSR rules that existed prior to December 31, 2002.

The five revisions adopted by EPA on December 31, 2002, two of which have been vacated, are summarized below:

1. Baseline Emission Calculation Methodology

The preexisting federal NSR rules required all sources to use the 24-month period preceding the change for calculating baseline emissions. However, the rules allowed the permitting authority the discretion to allow the use of a more representative time period within the previous five years.

To calculate baseline emissions under the revised NSR rules, facilities may:

- **For electric utilities (EGUs)**: Use any consecutive 24-month period in the previous five years as a baseline.
- **For all non-EGUs**: Use any consecutive 24-month period in the previous 10 years as a baseline.
- **For all facilities**: All facilities may use different averaging periods (within the above timeframes) for different pollutants.

2. Applicability Test - Changing the Method for Estimating Post Change Emissions

When evaluating the impact of projects/modifications under the revised NSR rules, facilities may calculate “projected actual” emissions rather than “future potential” emissions. The projected actual emissions would be compared to the

baseline emissions and the NSR significance levels to determine if there is a modification under NSR requiring permitting.

The preexisting NSR rules allowed only EGUs to use the projected actual methodology (WEPCO Rule), which involved projecting actual annual emissions for the five years following the modification (up to 10 years if permitting authority determined to be more appropriate). The revised NSR rule extends this provision to all facilities.

The revised NSR rules also established separate recordkeeping and reporting provisions between EGUs and non-EGUs and establish criteria for when records must be maintained. The June 25, 2005 court ruling has called these provisions into question and EPA has not yet responded to the court's remand to the agency.

3. Plantwide Applicability Limits – New Provision

The revised NSR adopts a new provision for facilities that agree to operate within plantwide emissions caps — called plantwide applicability limits (PALs). Facilities are able to modify their operations without undergoing NSR, as long as the modifications do not cause emissions to exceed the facility PALs. Currently, NSR applies to each emissions unit within a plant. Facility PALs would be valid for a term of 10 years. At renewal, the PALs would be re-evaluated to determine the need for adjustment based on advances in technology and control cost-effectiveness, after opportunity for public review and comment.

This provision allows facilities to use as a baseline the average actual emissions of the highest 24-month period in the last 10 years in establishing the PAL.

4. Pollution Control Projects (PCP) Exclusions

This provision of the NSR Reform was vacated by the U.S. Court of Appeals on June 25, 2005 and, therefore, will not be addressed in this submission.

5. Clean Unit Exclusion – New Provision

This provision of the NSR Reform was vacated by the U.S. Court of Appeals on June 25, 2005 and, therefore, will not be addressed in this submission.

III. Comparison of Current Federal and Proposed State NSR Programs:

In the preamble to the December 2002 rulemaking, EPA stated that: *"…if a State decides it does not want to implement any of the new applicability provisions, that State will need to show that its existing program is at least as stringent as our revised base program…"*. The revised federal base program currently consists of the baseline calculation methodology, the post-change calculation method and the PAL permit provisions.

NHDES' proposed program is at least as stringent as the revised federal program. First, NHDES proposes to implement a state rule that will incorporate virtually all of the federal PAL provisions into the New Hampshire SIP. NHDES is considering limiting the term of PAL permits to five years, rather than the ten year term under the federal rule, in order to allow for more frequent revision and updating that would increase the stringency and enforceability of the program. The addition of the PAL provisions to New Hampshire rules will allow facilities the increased amount of modification flexibility intended by the federal rules, while at the same time protecting the state's air quality by ensuring that significant emission increases do not occur over time. Until such time that NHDES completes the rulemaking process and finally adopts the federal PAL provisions, NHDES will issue PALs on a case-by-case basis, as previously accomplished on at least three occasions. To achieve this, NHDES will continue to issue federally enforceable construction permits and single source SIP revisions as warranted to accommodate issuance of PALs for existing sources seeking increased production flexibility.

Second, NHDES proposes to retain existing state requirements for calculating baseline and post-change emissions, as these requirements reflect the preexisting federal requirements and, as discussed below, ensure that modifications as defined under current NSR rules are accompanied by appropriate permits. These requirements will be expressly adopted in the state rules rather than incorporated by reference, as was previously the case. This will allow NHDES to specify recordkeeping and reporting requirements that will facilitate appropriate enforcement of the state's NSR program, in the absence of a revised federal recordkeeping requirement.

As part of the state's equivalency demonstration, NHDES has included with this submittal two draft regulations. See Attachments A and B. As discussed below, NHDES demonstrates herein that the substance of NHDES' proposed program is at least as stringent, if not more stringent, than the federal program and that enforceability of NSR in the state will be enhanced. At the same time, the proposed state program, as a whole, will encourage facilities to make needed changes to production while meeting the requirements of the PSD and Non-Attainment programs through compliance with NSR.

1. Baseline Emission Calculation Methodology:

For existing electric utility steam generating units, NHDES' current and proposed rules define baseline actual emissions as the average rate (in tons per year) at which the unit actually emitted the pollutant during any consecutive 24-month period selected by the owner or operator within the 5-year period immediately preceding when the owner or operator begins actual construction of the project. As these rules are consistent with the revised federal rule, the state rule is, by definition, at least as stringent as the federal rule with regard to existing electric utility steam generating units.

With regard to existing emissions units other than electric utility steam generating units, NHDES defines baseline actual emissions as the actual emission rate (in tons per year) for the two consecutive calendar years prior to the year a complete permit application is received by NHDES. An alternative 24-month period within the previous five years may be used if NHDES determines that it is more representative of normal source operations. NHDES uses the same time period with regard to all pollutants.

This approach of using a five year look back period is more stringent than the ten year look back period in 40 CFR 52.21 (b)(48) for several reasons:

- **New Hampshire Example of Lower Emissions** - A longer look back period of up to ten years is more likely to result in higher baseline emissions, as illustrated in a specific New Hampshire example.
- **Current Air Quality Requirements** - A shorter time frame for establishing baseline emissions, preferably less than five years, would most likely take into consideration the most current air quality requirements and permit limitations.
- **Typical Business Cycles** - EPA indicated that peaks in business cycles occur typically on a three to six year cycle or on a national average of nine years, while the trough cycles range from three to eight years or on a national average of eight years. Thus, the five year look back would capture most peaks in business cycles and would avoid any possible over- or under-statement of emissions.

New Hampshire Example of Lower Emissions

One of the greatest dangers in allowing for a look back period beyond five years is that the facility would be able to use a higher emissions baseline, thereby avoiding NSR permitting and possibly increasing actual emissions to a significant degree. This would result in the very air quality degradation that NSR is intended to avoid. On the other hand, if more recent baseline emissions are used, the baseline emissions would typically be lower or more stringent. This has been shown to be the case in New Hampshire, as demonstrated by the following example.

In 2002, a large Kraft pulp mill located in northern New Hampshire obtained a permit to install a new package boiler at its facility. The new package boiler was to replace two existing, less efficient boilers and would allow the facility to achieve compliance with certain aspects of the federal "cluster" rules. The permitting strategy undertaken by the company was to avoid NSR permitting requirements by "netting" the project against emission reductions achieved by the shutdown of the two old boilers. Using the procedures under the NHDES NSR program, the 2-year average baseline emission period for the existing boilers was determined to be 1999 and 2000. NHDES agreed that 2001 was not representative because the facility was temporarily shutdown as part a Chapter 11 bankruptcy proceeding. In reviewing the ten-year emission history for the facility, as allowed for under the revised federal NSR Rule, NHDES noted that the tons emitted per year (in tpy) for the 2-year period for 1992/1993 were significantly higher. The table below compares the two different baseline periods.

Column A	**Column B**	**Column C**	**Column D**
Pollutant	**1999/2000 Baseline Emissions (TPY)**	**1992/1993 Baseline Emissions (TPY)**	**Increased Baseline Emissions (TPY)**
Sulfur Dioxide	541	1,189	648
Oxides of Nitrogen	100	210 (290)	110 (190)[1]
PM-10	41	122	81
Carbon Monoxide	11	79	68
VOCs	1	4	3
Total	694	1604	910

The project, as permitted by NHDES, avoided the NSR requirements by accepting emission limits for the new boiler that would not exceed the baseline emissions from the two shutdown boilers, as seen in Column B. In order to meet these emission limits, the facility chose to install air pollution control equipment on the new boiler, including a selective catalytic reduction ("SCR") system for nitrogen oxides control, an electrostatic precipitator ("ESP") for particulate control, and a wet scrubber for sulfur dioxide and acid gas control. Although the project was not subject to the NSR permitting requirements, the facility installed air pollution control equipment that would likely meet Best Available Control Technology ("BACT") requirements under the PSD program, and possibly LAER under the Non-attainment program. Therefore, by using a five year look back period, NHDES was able to prevent the emissions increases and achieve the technology improvements that are the anchor of NSR.

If this facility had been able to permit the project using a ten year look back, it is likely that the facility would have chosen the baseline period in Column C. As noted in Column D, the 1992/1993 baseline period would produce a baseline with significantly

[1] The 1992/1993 NOx baseline emissions were reduced to reflect other NOx emission reductions that were required (in this case, NOx RACT) which became effective on May 31, 1995. Thus, actual NOx emissions in 1992/1993 were 290 TPY, but would be reduced to 210 TPY. This reduction thereby reduces the "Increased Baseline Emissions" for NOx to 110 TPY.

higher emissions (910 tons on a cumulative basis), which is mainly attributable to higher fuel consumption, than the 1999/2000 baseline period that the project was compared against during the permitting process. Therefore, if the project was permitted using the ten year look back as contained in the current federal rule, emissions from the project could have been significantly higher (i.e., 910 tpy) and the facility may have been able to avoid the installation of some or all of the air pollution control equipment noted above.

It is important to note that applying the more stringent baseline approach, as proposed by NHDES in this submission, did not prevent the facility in this example from accomplishing the modifications sought. Rather, the modifications were accomplished with improved emission controls.

Current Air Quality Requirements

The five year look back period is also at least as stringent as the ten year look back because the emissions would reflect the most current air quality requirements. Since air quality requirements are frequently changing, a facility would be required to impose the most current permit limitations and air quality requirements upon any baseline emissions. Since 1995, the USEPA and NHDES have imposed many regulations as a result of the 1990 Clean Air Act Amendments and local and regional initiatives. A review of the state emissions inventory clearly shows that emissions over the past ten years have decreased. Thus, in general, if a more recent baseline period is used, the baseline actual emissions will be lower. Under the federal rule, air quality requirements have to be taken into account regardless of the time period. However, using a shorter or more recent look back period is certainly at least as stringent if not more stringent than the current federal look back period.

Typical Business Cycles

As noted above, there is a built-in incentive for facilities to choose their highest baseline emissions in calculating the baseline emissions for NSR purposes. Presumably, the highest emissions will correspond to the highest production years. In EPA's November 2002 Supplemental Analysis, Appendix F, ERG concludes that for the industries analyzed, the cycles in peak production range from three to six years. Even though the trough to trough cycles are shown to be a longer time period (three to eight years), the low production years would not typically be chosen as the baseline emissions. Based on this reasoning, the five year look back period is at least as stringent, if not more stringent than a ten year period. Even if a facility had higher production and thus higher emissions more than five years ago, a more recent time period is more representative of the current business operations, and thus would result in lower baseline emissions that truly represent the current production level of the facility. It would make little sense, under EPA's own analysis of three-to-six year peak production range, to allow a facility to look back ten years for baseline emissions in an NSR applicability analysis. In addition, even if a particular facility had a peak-to-peak cycle of longer than five years, it would not necessarily be prevented from accomplishing its production goals or necessarily be required to use the lowest baseline emissions under the state's proposed

program because the permitting agency could agree to use 24 consecutive months of representative emissions within the five year time period.

NHDES also proposed to retain the preexisting federal requirement that the same baseline period be the same for all pollutants. If a facility were allowed to choose different baseline periods for different pollutants, the baseline emissions chosen would presumably be the highest emissions for that pollutant. Using the same baseline period for all pollutants makes more sense because it is a more accurate reflection of production levels. This also allows for more uniform regulation for all facilities and avoids confusion in the regulated community. NHDES has not seen any problems arise from this approach, which has been in place in this state for quite some time. There is no evidence that application of the same time period for all pollutants inhibits facilities from making improvements to their facilities.

2. <u>Change to Actual-to-Projected-Actual Test</u>:

The following table compares the pre and post change emissions tests proposed by NHDES to the current federal emissions test:

Device Type	Proposed Test in New Hampshire Rule	Current Federal Rule
Electric Steam Generating Units (EGUs)	Actual-to-Projected Actual Test (same as current New Hampshire rule)	Actual-to-Projected Actual Test
All non-EGUs	Actual-to-Potential Test (same as current New Hampshire rule)	Actual-to-Projected Actual Test

As shown above, the only difference between the revised NSR rule and NHDES' proposed program relates to the post-change emissions test for non-EGUs.

Notwithstanding the difference between the proposed rule and the federal rule in terms of establishing the actual emissions baseline (discussed under the section entitled "Actual Emissions Baseline"), NHDES believes that for purposes of the stringency determination, no demonstration is necessary for EGUs, as the actual to projected actual test proposed (and currently used) by NHDES is identical to the test contained in the federal rule. With regard to non-EGUs, this section explains why NHDES' proposed rule is more stringent than the federal rule and, therefore, must be approved in accordance with Section 116 of the Clean Air Act.

First, EPA has adopted these rule changes, in part, to address delays in NSR permitting and to implement projects that improve energy efficiency. However, NHDES believes that these concerns can be addressed while also retaining what NHDES believes is the more stringent approach to NSR.

In comparing the stringency of the actual-to-projected-actual and actual-to-potential tests, NHDES reviewed EPA rulemaking support documents, including EPA's November 2002 Supplemental Analysis, as well as detailed studies performed by state air pollution control agencies and projects in New Hampshire. New Hampshire has concluded that, while the actual-to-projected-actual test may provide new flexibility to sources to modify their facilities, and in some cases may appear to reduce emissions, there is no basis to conclude that the revised test is more stringent than the preexisting (and current New Hampshire) test. In fact, there is some basis to conclude that future emission increases are likely to result. Therefore, NHDES need only demonstrate that it is retaining its existing test in order to meet equivalency demonstration requirements.

It should also be noted that even states planning to adopt the actual-to-projected-actual test (e.g., Florida) concluded that this would likely increase emissions in their state.

Evaluation of Stringency Determination in EPA's November 2002 Supplemental Analysis

In the 2002 Supplemental Analysis, the EPA used a very broad, non-quantitative approach to justify the stringency of the actual-to-projected-actual test over the actual-to-potential test. While this approach does not allow NHDES to provide a precise technical and quantitative equivalency demonstration, there are a number of reasons why NHDES' proposed approach is more stringent that the federal approach.

EPA states (in the 2002 Supplemental Analysis) that establishing an actual-to-projected-actual applicability test will have a "net environmental benefit." EPA justified this conclusion by relying on four key points, all of which NHDES believes are flawed, and in some cases, cannot be quantified with the degree of certainty required for such a program. For these reasons, in addition to other findings made by NHDES when comparing the stringency of the "old" actual-to-potential test to the new federal actual-to-projected-actual test, NHDES has concluded that the new federal test will at best result in a zero net environmental benefit, and at worst, may result in substantial emissions increases. NHDES' discussion of four key points that would support New Hampshire's plan to retain the actual to projected applicability test for non-EGUs is provided below.

1. There is no evidence that the new actual-to-projected-actual test will remove barriers to projects that will reduce emissions.

EPA has stated that the new test will remove "barriers to projects that will reduce emissions."[2] The basis for EPA's statement is found in Appendix G of the Supplemental Analysis. The only information presented in Appendix G to support this claim consists of two unsubstantiated industry-supplied anecdotes. In report GAO-03-947, the General Accounting Office ("GAO") concluded that these unverified anecdotes were just that, and

[2] Id. at 44625/2.

that they carried no statistical validity.[3] The GAO went on to question whether the anecdotes can serve as the basis for EPA's claim about removing barriers to environmentally beneficial projects:

> "Because EPA based its conclusions on anecdotes, the agency's findings do not necessarily represent NSR's effect on energy efficiency projects within the industries that provided the anecdotes or across all industries subject to the program."[4]

> "While EPA determined that the final rule would lead to overall economic and environmental benefits, these effects are uncertain because of limited data and difficulty in determining how industrial companies will respond to the rule."[5]

Based on the fact that (1) an independent governmental agency (GAO) study questioned the validity of EPA's statement (that the 2002 rule changes would lead to more emissions reductions), (2) EPA concluded that the GAO report was accurate, and (3) EPA agreed with the GAO's conclusions and recommendations[6], NHDES concludes that there is no reliable information to support the conclusion that the actual-to-projected-actual test is in any way more stringent than the actual-to-potential test.

2. There is no reliable support for the conclusion that the actual-to-projected-actual test will remove "incentives to keep actual emissions high before making a change."[7]

EPA asserts in the rulemaking that the new test will remove "incentives to keep actual emissions high before making a change." This statement is discussed in Appendix G of the Supplemental Analysis. Appendix G devotes just one paragraph to this particular claim, which consists of a single industry-supplied anecdote. It is important to note that the company in this anecdote did not claim that any of the NSR requirements created an incentive for the company to raise emissions prior to a planned physical or operational change. Furthermore, EPA does not assert that the rules at the time (actual-to-potential test) gave the company any incentive to ever cause it to actually increase its emissions. Therefore, NHDES concludes that this one unsubstantiated anecdote provides no support for the proposition that the actual-to-projected-actual test will be more stringent than the actual-to-potential test. Further, it clearly provides no quantitative proof that the proposed revision is more stringent than the previous rule.

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[3] General Accounting Office Report No. GAO-03-947, "EPA Should Use Available Data to Monitor the Effects of Its Revisions to the New Source Review Program," August 2003 (GAO Report) at 23.
[4] GAO report at 23.
[5] GAO report at 24.
[6] GAO Report at 25.
[7] 68 Fed. Reg. at 44625/2.

3. There is nothing to show that the new actual-to-projected-actual test will not result in higher emissions levels at electric utilities.

EPA states that the new actual-to-projected-actual test will not result in higher emissions levels at electric utilities.[8] The agency bases this assertion solely on the fact that it has applied an actual-to projected-actual test to utilities since 1992 (WEPCO Rule). NHDES has used this test and plans to continue using this test for electric utilities in New Hampshire. However, NHDES is not claiming that this test is more stringent than the actual-to-potential test, and instead plans to keep this rule on the basis that the process of verifying predictions of projected actual emissions is more transparent for the electric utility generating sector than other industry sectors. Therefore, no stringency demonstration has been conducted for this provision.

4. EPA's recordkeeping and reporting requirements cannot provide a basis for supporting the revised test.

EPA has assumed that a significant emissions increase will never result from a change after the source owner has reached a negative applicability determination using the new test. In supporting this assumption, EPA references two requirements in the new rule. First, EPA cites the requirement that a source report any post-change emissions increases that exceed the projections on which the negative applicability determination was based. Second, EPA cites the requirement that a source send regular post-change emissions reports to the permitting authority if the source perceives that a "reasonable possibility" exists that its projection of post-change emissions is incorrect[9].

The court action in remanding these provisions to EPA for further explanation or rulemaking activity calls into question the basis for EPA's adoption of the new test. Therefore, NHDES' demonstration herein might not even need to address this issue. Nevertheless, in NHDES' view, these requirements fail to ensure that a significant emissions increase will never result from a change after the source owner has reached a negative applicability determination using the new test. First, neither of the requirements EPA cites contain any requirements that prevents emissions from increasing significantly. Rather, the rule simply requires the source owner to monitor, record, and report emissions under certain circumstances. If the source owner monitors, records, and reports a significant post-change emissions increase, at best it could be compelled to then adopt best available pollution controls (though the rule nowhere so states), but that will not alter the fact that a significantly increased amount of pollution has been released into the atmosphere over some period of time. Further, a projection of post-change emissions, especially one that is made by a source without the knowledge or approval of a permitting authority, is much more likely to be incorrect than the calculation of post-change emissions potential, which the actual-to-potential test requires. Post-change potential to emit can be estimated much more accurately than post-change actual

[8] 68 Fed. Reg. at 44625/2

[9] 68 Fed. Reg. at 44625/2.

emissions. This is even more so where, as in NHDES' experience with the actual-to-potential test, the source's potential to emit is limited in a synthetic minor permit.

In its Supplemental Analysis, EPA states that "the actual-to-projected-actual test would reduce the number of sources who would need to take permit limits." It claims that "environmental benefit of these permit limits is effectively preserved," however, claiming that, under the new rule, "any source projecting no significant actual increase must stay within that projection or face NSR." [10] In NHDES' review of the proposed test, no such requirement to go through NSR review can be found.

Even if the source's projection of post-change emissions happens to be the same number as would have appeared in a synthetic minor permit under the old rule, the penalties for exceeding the projection under the new rule are much less severe than the penalties for exceeding the limit in a synthetic minor permit under the old rule. Consequently, the probability of a source emitting at a higher level than its pre-change projection is significantly higher than the source emitting at a higher level than the limit in its synthetic minor permit under the old rule.

NHDES has previously used this test for electric utilities and plans to continue using this test for electric utilities. However, NHDES is not claiming that this test is more stringent than the actual-to-potential test, and instead plans to keep this rule on the basis that the process of verifying predictions of projected actual emissions is more transparent for the electric utility generating sector than other industry sectors.

State Efforts to Compare Impacts of December 31, 2002 Changes to NSR

In an effort to learn about the quantitative impacts of the EPA's changes to NSR, NHDES also reviewed two studies: *Impacts of New Source Review Reform on Actual Emissions in Florida*, drafted by the Florida Department of Environmental Protection (FL DEP) in January 2005, and *Reform or Rollback? How EPA's Changes to New Source Review Could Affect Air Pollution in 12 States*, issued by the Environmental Integrity Project (EIP) and the Council of State Governments/Eastern Regional Conference in October 2003. While these were not the only studies available, NHDES found them to be the most rigorous and detailed in terms of evaluating the quantitative impacts of EPA's changes. NHDES also wishes to point out that in conducting this research, it did not find <u>any</u> quantitative study supporting EPA's assertions that the "new" NSR rules would achieve greater emissions reductions beyond NHDES' current NSR program.

In the Florida NSR study, FL DEP concluded:

> "The rough impact on actual annual emissions is equivalent to [adding] the amount of emissions of a single major source for a single pollutant. In other words, the NSR Reform would amount to [adding] about the same as one new

[10] Supplemental Analysis at 14.

major source of NOX, SO2, particulate matter (PM), CO, and volatile organic compounds (VOC) every five years.[11]"

In the October 2003 EIP study[12], the authors concluded:

"The inventory analysis demonstrates convincingly the potential emission increases that would be allowable under the proposed new rule for calculating baselines under New Source Review. These potential emission increases can be quite substantial for almost every type of industry. The evidence from the permit analyses demonstrates that there are multiple circumstances under which other regulations would still allow significant potential increases in emissions under the new NSR rule."

Based on the conclusions from the above studies, along with virtually every other study conducted on the impacts of the federal NSR Reforms, *including studies by states that have chosen to adopt the EPA NSR Reforms*, NHDES has concluded that the overwhelming majority of evidence points to an increase in emissions if the actual-to-projected-actual test is adopted. Clearly, if EPA's current NSR program allows emissions to increase, it logically cannot be more stringent than its previous program. For this reason, NHDES believes that the actual-to-potential test currently used in New Hampshire (for non-EGUs) is more stringent than the provisions contained in the December 2002 federal NSR Reforms.

Review of Projects in New Hampshire that were previously reviewed with respect to NSR

NHDES has used the actual-to-potential test for non-EGUs in the past, and based on this experience, believes that applying this test (instead of the projected-actual emissions test) would require more sources to undergo NSR and therefore achieve greater emissions reductions than sources that could simply project a less than significant future emissions increase and avoid NSR altogether.

In the November 2002 supplemental analysis, EPA appeared to ignore this key benefit of the projected-potential test, instead asserting that sources faced with this test would be more likely to delay or cancel a planned project. This assertion was never quantified. NHDES believes that when evaluating two programs for purposes of comparing their stringency, it should be based on the assumption that the project would be subject to both tests, and the resulting emissions benefits from each test should then be compared. Although NHDES concedes the possibility that isolated instances may occur where a facility would decide not to make the planned change (because of the actual-to-potential test), this scenario should simply not be used to make the argument that the actual-to-projected-actual test is more stringent than the actual-to-potential test.

[11] Florida Department of Environmental Protection Report, "Impacts of New Source Review Reform on Actual Emissions in Florida" at 20.
[12] Environmental Integrity Project Report, "Reform or Rollback? How EPA's Changes to New Source Review Could Affect Air Pollution in 12 States" at 131.

To summarize, NHDES agrees with EPA that it is appropriate to retain the actual-to-projected-actual test for EGUs. The reason NHDES agrees is that the electric utility sector is unique from other industrial sectors in that it has a relatively transparent, well-established record of electric generation and also has a relatively predictable projected rate of growth, such that future emissions can be predicted with reasonable certainty. On the other hand, the future growth of most other industries is not transparent and unpredictable and therefore, makes it difficult to evaluate projected actual emissions with any reasonable certainty. As promulgated, the federal rule overlooks this fact and in NHDES' view, may allow facilities to significantly increase emissions without undergoing preconstruction review. The federal appeals court has agreed that NSR enforceability has been compromised with regard to the revised recordkeeping and reporting requirements, calling into questions EPA's rationale for support of the revised test. Therefore, NHDES proposes to retain the preexisting test for non-EGUs.

NHDES recognizes that there may be other select industries where future growth can be reasonably predicted, and if identified, the proposed rule can be changed in the future to allow these industries to use the same test as that used for EGUs.

3. <u>Plantwide Applicability Limits (PALs)</u>:

In the past, NHDES has issued temporary (construction) permits with plantwide emissions limitations for certain facilities, allowing for avoidance of major new source review while retaining air quality protections. These permits were then submitted to EPA as single source SIP revisions. NHDES believes that these permits have achieved EPA's expressed intent of reducing emissions while at the same time affording operational flexibility to sources.

The proposed rule submitted by NHDES contains the December 2002 PAL provisions. These provisions are consistent with the requirements of 40 CFR 52.21(aa) for PAL permits. Until such time that the PAL provisions are adopted, NHDES plans to continue issuing PAL permits in accordance with the existing temporary permit program contained in New Hampshire Administrative Rule PART Env-A 607, TEMPORARY PERMITS. Furthermore, NHDES plans to continue submitting these permits as single source SIP revisions.

Because the current state rules allow for the issuance of PAL permits, and the proposed rule will be fully consistent with the current federal requirements, the proposed state requirement is at least as stringent as the federal requirement and no further demonstration of equivalency is warranted.

4. <u>Clean Unit Test</u>:

As noted in the introduction, this provision of the NSR Reform was vacated by the U.S. Court of Appeals and as such DES will not address this provision at this time.

5. <u>Pollution Control Project Exclusion</u>:

As noted in the introduction, this provision of the NSR Reform was vacated by the U.S. Court of Appeals and as such DES will not address this provision at this time.

IV. Summary of Key NSR Provisions Proposed for New Hampshire:

As stated earlier, NHDES has reviewed the current federal NSR program and has chosen to adopt many of the federal provisions related to modifications (NHDES does not believe that a discussion of the rules related to newly constructed, "greenfield" sources subject to NSR is necessary, as EPA made no changes and NHDES plans no changes to these provisions). However, due to concerns over the stringency of some of the current federal provisions regarding modifications at existing major stationary sources, and our inability to quantitatively test EPA's assertions, NHDES has chosen to retain some elements of the current SIP approved NSR program in its proposed rule. A summary of the key program elements is provided below:

- **Change in Actual Emissions Baseline:** NHDES has chosen not to adopt the federal definition of "baseline actual emissions" in the proposed rule. As discussed earlier in this document, the definition used in the current state rule (the same definition that NHDES proposes to maintain) will generally result in a lower emissions baseline than the current federal rule, therefore requiring more sources to undergo NSR. Based on this view, NHDES concludes that the current SIP approved definition is more stringent than the federal definition.
- **Change to an Actual-to-Projected-Actual Test:** NHDES' proposed rule adopts the current federal provisions allowing EGUs to use the actual-to-projected-actual test when evaluating whether a modification will be significant for purposes of triggering NSR. However, NHDES' is not proposing to adopt the federal provision that extends the use of the actual-to-projected-actual test to other industrial sectors, and therefore plans to maintain the actual-to-potential test for non-EGUs. As discussed earlier, NHDES believes it is appropriate to allow the actual-to-projected-actual test for EGUs because growth in the electric utility sector is relatively transparent and predictable and future emissions can be estimated with reasonable certainty. Conversely, since future growth in other industry sectors is harder to predict with reasonable certainty, NHDES believes that the actual-to-projected-actual test should not be used, and instead proposes requiring that non-EGUs apply the actual-to-potential test when evaluating modifications with respect to NSR. However, NHDES is willing to consider other select industries where growth is relatively predictable and would consider modifying its rule in the future to extend this test to those industries.
- **Plantwide Applicability Limits (PALs):** NHDES has chosen to adopt virtually all the federal PAL provisions in its proposed rule, with the exception of the ten year look back.
- **Pollution Control Project Exclusion:** Due to the U.S. Court of Appeals ruling, NHDES has chosen not to adopt the Pollution Control Project provisions at this time.
- **Clean Unit Test:** Due to the U.S. Court of Appeals ruling, NHDES has chosen not to adopt the Clean Unit provisions at this time.

Based on the above demonstration, NHDES believes that the current SIP approved rule, as well as the revisions proposed by NHDES, are at least as stringent as the current federal NSR regulations.