It should come as no surprise in today’s highly regulated world that a permit governing air quality is required before constructing a new natural gas–fired electric-generating unit. And perhaps it would not surprise many to learn that the same type of permit is needed prior to making significant changes to an existing gas unit. However, to the uninitiated, the full reach of the program known as “New Source Review” (NSR) can come as quite a shock. Although coal-fired utilities have been the primary target of NSR enforcement for over a decade, natural gas–fired plants could be next.

NSR, a part of the Clean Air Act, was initially designed as a program to require major emitters of regulated air pollutants to install the best available emission control equipment when constructing new units, and then upgrade those controls when making any “major modifications” to a unit. But in recent years, NSR has become a favorite weapon in the arsenal of those interested in forcing all major industrial sources of air pollutant emissions to install new state-of-the-art emission controls.

NSR has become a favorite weapon.

The use of NSR as a primary means of obtaining significant emission reductions is of relatively recent origin. Although the...
program has been on the books since the early 1970s, it was only in 1999 that NSR information requests, notices of violations, and lawsuits against became commonplace, as the Environmental Protection Agency (EPA) announced several new legal interpretations of the existing NSR regulations and embarked on its NSR “enforcement initiative” against electric utilities.

Claiming nearly universal noncompliance, the EPA has taken at least some action against most of the coal-fired power plants in the country, and environmental groups have sued many of the rest. The onslaught has resulted in dozens of settlements, under which the EPA claims credit for billions of dollars in new emission controls, despite the significant legal victories earned by the companies that have been willing and able to fight back (and despite the fact that many of the emission controls would have been required anyway under other regulations). With the attack on coal well under way, and many utilities switching to gas for both economic and regulatory reasons, the next battlefront could be natural gas.

The primary difficulty with NSR is the uncertainty inherent in its case-by-case design, both in the determination of whether a project triggers its requirements and in what those requirements may be once triggered. Simply put, the program requires facilities to obtain a permit before making any physical or operational change that increases emissions, but that is where the simplicity ends. To determine whether a permit may be required, facilities must determine whether each individual project planned might be eligible for one of several poorly defined exclusions and, if not, prepare complicated emission calculations to determine whether the project will cause a “significant emissions increase.”

Primary difficulty with NSR is the uncertainty inherent in its case-by-case design.

The details can (and do) fill hundreds of pages, but the following tips will help plant owners and engineers avoid the most common pitfalls.

**KNOW WHEN TO “THINK NSR”**

The most common NSR mistake is to fail to spot the issue. It is an easy mistake to make, given the program’s complexity, surprisingly broad reach, and the inconsistent manner with which it has been enforced by the EPA and interpreted by the courts over the years. In light of these challenges, establishing a process for spotting potential NSR issues in a timely manner is critical.

There are three points in time when all facilities should “think NSR.” The first is during the planning process for all capital projects or significant maintenance projects. Each facility should conduct an annual review (at a minimum) of all projects for which money will be spent in the coming year to determine whether any of those projects could affect emissions. Facilities should also think hard about how they characterize and justify their projects because any projects that result in significant changes in capacity, efficiency, reliability, or emission rates are more likely to catch the attention of the EPA or litigious environmental groups.

Second, all facilities should “think NSR” when installing new emission control equipment. Even though new controls are designed to reduce emissions of one pollutant (likely in response to one of the many new regulations issued in recent years), many control devices can also simultaneously cause increases of other pollutants. For example, while selective catalytic reduction (SCR) systems can reduce emissions of nitrogen oxides, the same chemical process can convert sulfur dioxide into sulfur trioxide and lead to increased emissions of sulfuric acid mist. In addition, the installation of new emission controls can also produce emission reductions that can sometimes be used to offset emission increases from other projects that might otherwise trigger the need for an NSR permit. With this opportunity to “net out” of NSR, timing new control installations with other projects that increase emissions can be a helpful compliance strategy.

Third, “thinking NSR” can be important during all permitting actions, particularly those that involve a public notice and comment process. Even if the permit under review does not involve NSR in any way, the permitting action can provide an opportunity for the EPA and third parties to claim that it should. For example, Title V Operating Permit renewals have become a favorite opportunity for citizen groups to claim that the EPA must object to the permit because the facility must have violated NSR at some point in the past. Although the EPA typically refuses to act on those claims because they are often entirely unsupported by
any facts, facilities should be prepared to deny such allegations when they arise and be prepared to help the EPA respond.

“ROUTINELY” CONSIDER ALL PERSPECTIVES

Over the past 14 years, the EPA and the electric utility industry have fought numerous legal battles over the scope of the “routine maintenance, repair, and replacement” exclusion from NSR—the provision that allows facilities to conduct “routine” activities without first obtaining an NSR permit.

Industry has generally argued that projects should be thought of as “routine” from the perspective of the industry as a whole. Under that standard, a wider range of projects are likely to qualify as “routine.” However, the EPA and others have argued for a plant-specific test (i.e., that only projects routinely performed at an individual unit qualify for exemption). The difference is best illustrated through an example—while an individual car may only require significant repairs once or twice during its useful life, those same repairs are likely performed routinely by the car repair industry as a whole.

Despite vehement and protracted arguments by both sides, however, some courts have come to accept an “all-of-the-above” approach. Although the many initial court decisions addressing the issue may conflict, more recent decisions have generally considered all the evidence and arguments from both perspectives. Facilities should follow suit and consider the question of “routine” from all possible angles, in light of the case-by-case, fact-specific nature of the analysis.

If there is a reasonable basis for arguing that a project is not routine under any perspective, an analysis of the possible emissions implications of the project is a prudent insurance policy.

PREPARE A “CALCULATED” DEFENSE

Given recent assaults made on the “routine” exclusion (and other categorical means of avoiding NSR), the importance of defensible emissions analyses cannot be overstated. While the NSR regulations do not define “routine,” they do outline the emission calculation procedure required to determine whether NSR applies to nonexcluded projects. Plenty of uncertainty remains in the emission calculations provisions, leaving opportunities for challenges, but the regulations provide a reasonable guide for preparing the most reliable defense to NSR claims.

The emissions test authorized by the regulations allows facilities to compare a 24-month “baseline” of annual emissions from the past five years to the highest future “projection” of actual annual emissions expected in the next five years. If those calculations indicate an emissions increase may occur, the next step is to determine whether the increase is attributable to the project. Only projects that cause an emissions increase will trigger NSR.

A comparison of future projections with the project to future projections without the project can help isolate the impact of the project on emissions from other unrelated emission increases caused by demand growth, other projects, or other independent factors. Even if it appears that the project may be the cause of the calculated emissions increase, increases that are below certain thresholds or that can be offset with other contemporaneous decreases still do not trigger NSR permitting.

Despite the relatively clear direction provided by the step-by-step emissions test set forth in the regulations, the temptation to rely on shortcuts remains. For instance, some facilities may be tempted to rely on the emissions analysis that the EPA has attempted to use in many of its enforcement actions. That test, which was designed for reliability projects, simply adds up the number of hours a unit was unable to operate in the past due to an unreliable component and assumes that the unit will run that many more hours in the future (perhaps adjusted somewhat by an assumed operating factor).

However, two federal courts have recently rejected the application of that test to any unit that fails to operate virtually continuously at maximum capacity. The test is also inconsistent with the current NSR regulations. The regulations and numerous court decisions make clear that a “past-actual-to-future-actual” comparison is required, but the test the EPA uses in litigation is essentially a “past-actual-to-future-fictitious” comparison—it compares the actual past to what the past might have been if the project had already been completed, with no actual prediction of the future (other than to unreasonably assume that the future will be exactly like the past).

Although facilities may be tempted by the comfortable security blanket that the EPA’s own
emission predictions in the first place. However, attempting to identify the cause of an unexpected emissions increase could be difficult. It will also provide yet another opportunity for the permitting authorities or third parties to question a company’s NSR compliance determination.

Even so, the reporting requirements may have a silver lining. Once the initial calculations are submitted, NSR compliance may become less about predictions and more about data. In the same case referred to above, the federal court agreed that the EPA may bring a lawsuit for emission calculations that blatantly fail to follow the NSR regulations, but the court recognized that the EPA cannot “second-guess” the underlying assumptions relied upon by facilities that have submitted emission reports.5 If that court’s decision controls, only actual emission measurements will determine whether an NSR violation has occurred, not arguments over what a facility should have predicted.

CONSIDER A PERMIT

With all the potential risk involved in avoiding NSR, there are times when facilities should consider the obvious alternative—getting an NSR permit. After all, how hard can it be?

The answer depends on the facts of each situation. The critical factors include fuel choice, combustion technology, emission control technology, local air quality, and the character of the agency with the authority to issue the permit. For a top-of-the-line combined-cycle natural gas unit that is willing to install all of the latest controls, located in an area that is not in violation of any EPA standards, and governed by an experienced state permitting authority with sufficient available resources, the permitting process may only take a year and cost half a million dollars in consultants’ and attorneys’ fees. In contrast, many recent attempts to obtain an NSR permit for coal-fired power plants have entirely failed, and still cost millions.

Most NSR permits will likely fall in the middle, requiring 18–24 months and somewhere shy of a million dollars to complete. But the
effort required to obtain the permit is not the only cost, of course. To qualify for the permit, the facility will have to accept stringent emission limitations that will require installation of state-of-the-art control devices that can cost tens or even hundreds of millions. If the potentially available controls are located in an area with air quality that does not meet EPA standards, their cost-effectiveness is irrelevant. The facility may also have to purchase “emission offsets” (i.e., paying another facility to reduce its emissions to make room for the new project). If offsets are not available, or if a project in a clean air area cannot demonstrate that its emissions will not cause the area to violate the EPA’s standards, the permit application will be rejected.

Even if a facility is willing to accept all that an NSR permit would require, the permitting and public comment process offers an opportunity for other parties to challenge the project, which can delay the permit by years. That delay alone can, and has, killed numerous projects, even where the facility was later successful in proving that it fully complied with NSR and deserved a permit.

Delay . . . has killed numerous projects, even where the facility was later successful in proving that it fully complied with NSR and deserved a permit.

Greenhouse gas emissions, recently added to the list of “regulated NSR pollutants” by the EPA, dramatically increase not only the burden of preparing a viable permit application but also the opportunity and likelihood of challenges by third parties. Because few if any control technologies exist for greenhouse gases, NSR permits addressing greenhouse gas emissions do not actually require any emission reductions. Nevertheless, the additional complexity associated with simply evaluating this new and unique group of pollutants provides further discouragement to facilities weighing their NSR compliance options.

New units generally have little choice. Unless the unit under consideration is very small (and located at a site with minimal or no other emission sources), NSR applicability is a foregone conclusion. For new units, the owner can consider the cost of the permit and the required state-of-the-art emission controls in the economic viability analysis for the project from the beginning. If the permit is expected to be too expensive or too controversial, the project simply dies.

For existing units, however, the “do-nothing” alternative may not be an option. While some projects at existing units are truly discretionary, and can simply be abandoned if the permit is not worth the price, other projects are likely necessary just to keep the unit running. Abandoning the project could mean abandoning the unit. In these circumstances, a permit may be unavoidable, in which case early planning is critical to minimize delays and maximize the chance of a successful outcome.

PREPARE FOR THE WORST

No matter how hard a facility may try to comply, there is no over-the-counter immunization available for NSR enforcement actions or citizen suits. The vagueness of the program’s applicability requirements allows even reasonable minds to disagree as to what may be required, never mind those that see NSR as an opportunity to influence public policy or simply stop a project they do not like. Even with the best defenses in place, a fight may be inevitable.

Still, there are certainly steps that facilities can take to help minimize the risk of enforcement. First, all company personnel involved in project planning should be aware of the risks associated with NSR. Project managers that remain unaware of even the basics of the program are more likely to make statements to justify a project that could later serve as evidence in a lawsuit. References to a project as a “major modification,” for instance, can easily be avoided by those familiar with that sensitive regulatory term of art.

Second, facilities should seek to establish a consistent and experienced NSR compliance team. The team should consist of technical experts, legal experts, and generation planning experts that are familiar with NSR and each other to ensure a consistent compliance strategy. These individuals may also serve as expert witnesses in any future enforcement actions (with the exception of the attorneys, of course).

Third, facilities should seek to maintain an open line of communication with their permitting authority. As unique applicability questions arise, the best source of additional clarity is often the administrative agency with the authority to make the final call. In most states, that agency is the state or local environmental agency, although the
EPA remains directly in charge of some areas. Either way, most states and EPA Regions are often willing to provide both informal and formal NSR applicability advice, although facilities should always weigh the risk of an unfavorable answer in deciding which questions to ask.

Communication with state permitting authorities can also be particularly important if there is a possibility that “minor” NSR requirements may apply. Most states implement their own preconstruction permitting programs for projects that do not trigger NSR permitting but nevertheless have some impact on emissions. State construction permits are generally easier to obtain, but they offer the permittee an opportunity to seek approval of its emission analysis, because the same emissions test used to avoid NSR is often used to determine whether a state permit is needed.

Finally, to prepare for the possibility of enforcement, facilities need to make sure their compliance files are in order. That preparation should include identification and segregation of all potentially “privileged” documentation—documents created by an attorney or with attorney involvement—to avoid waiving the right to protect those documents from the EPA and potential plaintiffs in the future.

NOT YOUR GRANDFATHER’S PERMITTING PROGRAM

NSR is often characterized as a “grandfathering” program—that is, one designed to allow existing units to continue operating as originally designed while imposing more stringent control requirements only on newer facilities. In one sense, that characterization is correct. As recognized by a recent federal court of appeals decision, the program not only allows but also encourages facilities to maintain existing units instead of building new ones.6

As recognized by a recent federal court of appeals decision, the program not only allows but also encourages facilities to maintain existing units instead of building new ones.

But labeling NSR as a grandfathering program ignores the EPA’s enforcement initiative and the legal arguments upon which it is based, under which every major facility would likely trigger NSR repeatedly, no matter its vintage. Thinking of NSR as only a grandfathering program is also overly simplistic in that it fails to recognize that any major emitting facility can trigger NSR, regardless of when it was constructed or when it received its last NSR permit.

Rather than a “grandfathering” scheme, NSR is best thought of as an attempt to balance the need to protect air quality with the need for economic growth. After all, the Clean Air Act itself defines the purpose of NSR as a means of ensuring “that economic growth will occur in a manner consistent with the preservation of existing clean air resources.”7 Unfortunately, this balancing test necessitates a case-by-case analysis that rarely involves bright-line certainty and often enables abuse.

NSR is best thought of as an attempt to balance the need to protect air quality with the need for economic growth.

Philosophy aside, the reality is that NSR presents a significant legal risk for any industry with significant air emissions that attract the attention of administrative agencies and environmental citizen groups. With some of those groups now calling for a move “beyond natural gas,” the tips here could be helpful sooner rather than later.

NOTES
2. See 40 C.F.R. § 52.21. Note, however, that many states have adopted regulations that differ somewhat from the federal NSR regulations. As such, the NSR emissions test may vary somewhat from state to state.
3. United States v. Cinergy, 623 F.3d 455, 460 (7th Cir. 2010) (“The formula that the EPA’s experts used predicts that the effect of the modifications on generation would be proportionately equal to the increase in annual capacity. … The formula doesn’t work for a cycling facility. … Their evidence should not have been admitted.”); United States v. Alabama Power, 773 F. Supp. 2d 1250 (N.D. Ala. 2011) (same). Alabama Power is currently on appeal at the US Court of Appeals for the Eleventh Circuit.
4. United States v. DTE Energy Co., 711 F.3d 643, 650 (6th Cir. 2013) (“EPA also repeatedly suggests bad faith on the part of an operator that intends to keep its post-construction emissions down in order to avoid the significant increases that would require a permit [citation omitted]. However this is entirely consistent with the statute and regulations.”)
5. Ibid., at 644 (“While the regulations allow operators to undertake projects without having EPA second-guess their projections, EPA is not categorically prevented from challenging even blatant violations of its regulations.”)
6. Ibid., at 651.
7. 42 U.S.C. § 7470(3).