

IN THE MATTER OF : *APPLICATION NOS.*
200001616 and 200001617

QUINNIPIAC ENERGY, LLC : *JUNE 26, 2003*

FINAL DECISION

I. INTRODUCTION

On September 4, 2002, pursuant to General Statutes § 22a-174, the Hearing Officer issued a *Proposed Final Decision* in the above-referenced matter, recommending that the Commissioner issue to Quinnipiac Energy, LLC (the applicant) permits to construct and operate two existing deactivated boilers at the English Station facility in New Haven in accordance with the terms and conditions of the permit modifications outlined in the *Proposed Final Decision*. The reactivation of these oil-fired boilers would allow English Station to be used as a peaking power facility to provide electricity when demand exceeds baseload supply.

The applicant, the intervenors Connecticut Fund for the Environment/City of New Haven (jointly), and the New Haven Environmental Justice Network filed exceptions to the *Proposed Final Decision* and requested oral argument. In addition, the Attorney General requested permission to file a brief as amicus curie. In response, I accepted the Attorney General's brief provided that either he or his representative appear at oral argument to respond to questions. Following the filing of briefs concerning the exceptions, the parties along with a representative of the Attorney General were heard at oral argument on March 19, 2003.

For reasons discussed below, the recommendation of the *Proposed Final Decision* to grant the permits to construct and operate two existing deactivated boilers at the English Station facility in New Haven is hereby denied.

II. STATUTORY AND REGULATORY BACKGROUND

Particulate matter and ozone are two of the six criteria pollutants for which National Ambient Air Quality Standards (NAAQS) have been established by the federal Environmental Protection Agency (EPA). Connecticut has adopted the NAAQS for both. Regs., Conn. State Agencies § 22a-174-3a. While the current standard for particulate matter in Connecticut is less than or equal to ten microns in diameter (PM 10), in 1997 under sections 107 and 110 of the Clean Air Act (CAA), EPA established the standard for particulate matter as less than or equal to 2.5 microns in diameter (PM 2.5). That same year, a more stringent eight –hour ozone standard was established to replace the current one hour standard as well.

As part of the standard setting process, the federal Clean Air Act under sections 107 and 110 requires EPA to establish criteria air pollutants for those contaminants, which, through its research, is determined to have a health effect or a measurable negative effect on the environment. Once EPA establishes a health based standard, states are required to develop regulations and control strategies that will limit emissions associated with those pollutants so that it can both attain and maintain its air quality below the threshold standard.

III. DISCUSSION

At the outset, let me affirm that the Hearing Officer's findings of fact and statutory and regulatory analysis in the *Proposed Final Decision* are, on balance, both comprehensive and accurate. Both staff and the Hearing Officer correctly found that the proposed activity meets the standards set out by the current applicable statutes and regulations. General Statutes § 22a-174, Regs., Conn. State Agencies § 22a-173-3a.

However, having considered the points raised at oral argument along with the record in its entirety, and recognizing my broad powers and duties as Commissioner pursuant to General Statutes §§ 22a-1, 22a – 5 and 22a-6, I am compelled to reverse the holding of the *Proposed Final Decision*. In carrying out the environmental standards of the state that are protective of public health and the environment, it is my responsibility as Commissioner to take notice of the pertinent statutory and regulatory changes by the federal Environmental Protection Agency (EPA) and, in turn, by my own Department (DEP). In this instance, there are policies, programs and pending regulatory standards that have already begun to have and will continue to have a direct impact upon the status of New Haven's attainment of both existing and proposed NAAQS in general and with the standards for fine particulate matter specifically. Issuance of the subject permit would reverse much of the benefit achieved by these strategies.

New Haven has long been designated a nonattainment area for particulate matter¹ that are ten microns and smaller in diameter (PM10) and is in "serious" nonattainment for ozone.² While current monitoring data shows that the PM 10 standard has been met in New Haven, under federal rule the standard in Connecticut for fine particulate matter must be changed to particulate matter that is 2.5 microns or

¹ Particulate matter is the generic term for a broad class of chemically and physically diverse substances that exist as discrete particles (liquid droplets or solids) over a wide range of sizes. Particles originate from a variety of stationary and mobile sources. They may be emitted directly or formed in the atmosphere by transformations of gaseous emissions such as sulfur oxides (Sox), nitrogen oxides (Nox) and volatile organic compounds (VOC). (APP-19, CT DEP report, 1999 *CT Annual Air Quality Summary*)

smaller in diameter (PM 2.5) in the near future. New Haven will not meet this new standard. Meeting these scientifically determined national standards is more than simply complying with a federal statutory mandate. Health studies have shown an association between levels of fine particulates and premature mortality from respiratory and cardiovascular disease as well as increased incidence of respiratory illness in exposed populations. The major health effects associated with high exposures to particulate matter include aggravation of existing respiratory and cardiovascular disease, such as chronic bronchitis and emphysema; susceptibility to infection; damage to lung tissues; carcinogenesis and mortality. APP-19, CT DEP report, *1999 CT Annual Air Quality Summary*.

In addition to required monitoring of PM 10 levels in ambient air, in preparation for the new PM 2.5 standard DEP has been monitoring PM 2.5 levels throughout Connecticut since 1998. Specifically, in New Haven, PM 2.5 levels have been monitored at Stiles Street. Stiles Street is approximately a mile and a half south of the proposed project. In 1999, measured PM 2.5 concentrations for the state exceeded the 15 ug/m³ annual standards only at the Stiles Street site in New Haven, which measured a level of 17.9 ug/m³. In addition, New Haven reported exceeding the 8 hour ozone standard on twenty-six days that same year. *Proposed Final Decision, Finding of Fact #33*.

Based on the three years of PM 2.5 monitoring data, DEP must recommend to EPA that New Haven be designated a nonattainment area for PM 2.5. *Oral argument at 58-60*. As required by 42 USC section 7410 (a)(2)(A)-(L), the Governor must announce nonattainment areas for PM 2.5 and the 8-hour ozone standard within Connecticut.

EPA has not yet published the guidance for PM 2.5 for the states to use to develop appropriate control strategies and to determine what level of reductions would be

² Areas that are designated as nonattainment for ozone are further classified by degree of noncompliance – defined as “marginal, moderate, serious, severe or extreme.” 42 USC section 7511(a)(1).

credited to those control strategies. However, EPA has indicated that the guidance for PM 2.5 will be available at the end of 2003 with final publication at the end of 2004. States would then have three years to submit state implementation plans demonstrating how the agency will attain and maintain that standard. *Oral Argument* at 33 –35. Although the Hearing Officer was correct that the application is consistent with and approvable under the current standards, I cannot ignore the change in standards that is well underway and which we know that New Haven will not meet.

In addition to fine particulate matter, the proposed project will also add incrementally to the level of nitrogen oxides (NOx), an ozone precursor, in New Haven while providing minimal electric power to the New England grid. Pursuant to § 22a-174-3a, Table 3a (k) – 1, the emission rate set out in the Connecticut regulations for NOx is 25 tpy for minor sources. The emission limits in the draft permits for the proposed project for NOx is slightly below the emission rate at 24.58 tpy. *Proposed Final Decision* at 32. As explained in testimony by DEP staff at oral argument as well as in the *Proposed Final Decision*, the level of NOx emissions determines whether a permit application for either a new source or modification of a stationary source such as a power plant will qualify as a “minor” or “major” source of pollution. Since the pollution control requirements for major sources are significantly more extensive, there is an advantage for applicants to keep their NOx emission rate under the 25 tpy level so as to avoid qualifying as a major source. In fact, part of the overall control strategy employed under the Clean Air Act is to provide regulatory incentives to reduce emissions below the major source threshold. The control technology review standard for a major source, for instance, would require be the lowest achievable emission rate. In this case, through carefully restricted the hours of operation of the “peaking” facility along with the type of fuel chosen, the applicant was able to keep total NOx emissions under the 25 tpy level for a minor source. *Proposed Final Decision* at 32 and *Oral Argument* at 52. If run on natural gas, however, English Station could in theory operate fulltime as a base load facility and run more than 8,000 hours per year as a 360-megawatt facility (as opposed to the proposed 75 – megawatt facility) with total emissions that are very close in both type

and level. *Proposed Final Decision* at 45 and *Oral Argument* at 37. This suggests that the applicant's choice of operating restrictions and fuel was dictated more by limits set to qualify as a minor source than by a strong societal or market need for the generation of electricity.

Further, given that the proposed project will be operating as a "peaking" facility, it is likely to be operating on days when air quality in New Haven will be at its worst. For instance, as reported by an expert air quality witness during the Hearing, approximately 80 percent of peak electricity demand days when peaking power was used over the last several years coincided with days of high ozone levels in New Haven. Research demonstrates that PM levels were high on those days as well. *Proposed Final Decision*, Finding of Fact #32. The clear presumption is that history suggests that impacts from this facility, while acceptable under current regulatory standards when measured in the aggregate over a full year, will be felt primarily only on those days when New Haven is at or over the applicable NAAQS.

In short, the proposed project will add incrementally to fine particulates and ozone precursors within New Haven while providing, at best, minimal electric power to the New England grid, likely operating on days when air quality is at the worst. However small or incremental these contributions to degraded air quality may be, the impacted neighborhood may not be able to avoid or lessen the direct impacts of such additional pollutants.

Testimony at oral argument emphasized how residents living near the power plant – the impacted neighborhood – are ill equipped given the housing stock and the economic status of the residents to avoid or lessen the impacts of additional pollutants, however, small or incremental they may be. *Oral Argument* at 25. The Hearing Officer in the *Proposed Final Decision* agreed that "[I]t is undisputed that the area in which the English Station facility is located is a densely populated urban setting... includ[ing] a relatively large percentage of children, the elderly, and population groups described in census data as minority and low to moderate-income

households. *Proposed Final Decision* at 39. Since the power plant is a peaking plant, it will be operating only during peak periods of electrical demands. These periods most commonly occur during the summer and when the temperature is hot which is also when peak air pollution occur. At oral argument, intervenor asserted, without challenge, that low income households living near the power plant are ill equipped to avoid such hazards as they can afford little air conditioning and must resort, instead, to opening their windows regardless of air quality conditions. *Oral Argument* at 25.

Because of the long standing air quality conditions in New Haven related particularly to PM and ozone, Connecticut DEP has not waited for EPA to publish the guidance for PM 2.5. This agency has been concerned enough about detrimental health related impacts to employ additional localized restrictions and strategies to bring New Haven into compliance with the existing PM 10 standard as well as to place New Haven in a strong position to achieve compliance with the imminent PM 2.5 standard.

DEP has aggressively pursued the reduction of fine particulate matter from many sources including one of its primary uncontrolled sources - diesel engines. *Oral Argument* at 34-35. For example, DEP has required the Department of Transportation to retrofit pollution controls on diesel powered construction equipment at major road and bridge reconstruction projects in New Haven in direct response to its nonattainment status. Further, based on the results of a first in the nation pilot project to retrofit diesel school buses in Norwich, DEP has taken steps to initiate a similar citywide school bus program that will retrofit diesel school buses throughout New Haven. *Oral Argument* at 35, 47 and 68. These retrofits are targeted in large measure on significantly reducing fine particulates or soot. Improvements in air quality from these New Haven specific strategies would easily be cancelled should the subject permit be granted. I believe that to do so would be poor public policy especially against the back drop of nonattainment in New Haven.

New Haven has one of the highest asthma hospitalization rates in the Connecticut.³ Based on health and air pollution studies nationwide in recent years, it is not unreasonable to assume that any incremental increase in emissions from the proposed plant may exacerbate detrimental respiratory responses for the population living in close proximity to the power plant. This is specifically the target population for which many of the agency's recent emission reduction strategies are designed to protect (e.g., progressively more stringent emission rates for industrial fossil fuel fired boilers larger than 250 million btu's and electrical generating facilities greater than 25 mega watts beginning in January, 2002. Regs., Conn. State Agencies §§ 22a-174-19a, 22. For such reasons, I believe that the costs or impacts, both real and potential, of reopening a power plant that could have a detrimental impact on the health of the residents of New Haven outweigh the proposed benefits the small amount of electric power the plant will provide to the New England grid.

Finally, the proposed project is an example of why energy siting strategies in Connecticut needs revision. Currently, market interests, both long and short term, dictate the proposed application. Benefit or economic return to the applicant becomes the primary criterion for both site and project selection. Solutions to real societal needs or problems, be they energy shortages or air pollution, are only indirectly served and the most environmentally sound solution is even more tangential. In short, there is no direct competition among choices so that the best and most balanced solution can be selected. One wonders, for example, could not conservation practices systemwide throughout either Connecticut or the New England grid achieve the same or greater "output" as the proposed application with none of the potential health and environmental impacts? Further, while the proposed application meets the applicable standards for permit issuance, there are better, less polluting methods of producing power and there may well be better locations at which it can be done. However, the existing location of an old power plant and an allowable strategy under rule to qualify as a "minor" source to produce peaking power and still meet applicable air emission standards threatens the success of extra and necessary pollution reduction strategies

³ NH-EJN-16, CT Office of Health Care Access report, *Asthma: A Growing Health Concern in Connecticut*

developed to address specific problems in a specific geographic location for the protection of an at risk population.

IV. CONCLUSION

In conclusion, having reviewed the *Proposed Final Decision* the record, and considered the arguments raised by the applicant, intervenors, staff and the Attorney General, I hereby DENY the recommendation to grant the permits to construct and operate two existing deactivated boilers at the English Station facility in New Haven.

June 26, 2003
Date

/s/ Arthur J. Rocque, Jr.
Arthur J. Rocque, Jr.
Commissioner

PARTY LIST

Final Decision in the matter of Quinnipiac Energy, LLC
(Application Nos. 200001616 and 200001617)

PARTY

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