SUPREME COURT OF THE STATE OF NEW YORK
COUNTY OF STEUBEN

In the Matter of the Application of

SIERRA CLUB, CONCERNED CITIZENS OF ALLEGANY COUNTY, INC., PEOPLE FOR A HEALTHY ENVIRONMENT, INC., JOHN CULVER, AND BRIAN AND MARYALICE LITTLE

Index No. E2019-0441CV

Petitioners,

For a Judgment Pursuant to Article 78 of the Civil Practice Law and Rules,

Hon. Patrick F. McAllister

–against–

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION, BASIL SEGGOS, COMMISSIONER, TOWN OF CAMPBELL, AND HAKES C&D DISPOSAL INC.

Respondents.

PETITIONERS' MEMORANDUM OF LAW IN SUPPORT OF THE AMENDED VERIFIED PETITION

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PRELIMINARY STATEMENT

This proceeding challenges the actions of Respondent New York State Department of Environmental Conservation ("Respondent DEC") (1) in issuing three permits to Respondent Hakes C&D Disposal Inc. ("Respondent HCDD") on December 19, 2019, authorizing an expansion of Respondent HCDD's Hakes C&D Landfill located at 4376 Manning Ridge Road, in the Town of Campbell, Steuben County, New York (collectively the "DEC Permits"), (2) in issuing a positive findings statement pursuant to the State Environmental Quality Review Act, ECL Article 8 ("SEQRA") and the SEQRA regulations, 6 NYCRR Part 617 for the landfill expansion project on December 19, 2019 (the "DEC Findings Statement"), (3) in conducting an environmental review process pursuant to SEQRA and issuing a Final Supplemental Environmental Impact Statement for the expansion project on December 5, 2018 (the "Hakes FSEIS") and (4) in issuing a supplement to the Hakes FSEIS on December 19, 2019 (the "FSEIS Supplement"). Petitioners also challenge the actions of Respondent Town of Campbell ("Respondent Town") in approving a zoning change and a zoning law amendment for the benefit of Respondent HCDD, one by the Town Planning Board on January 16, 2019 and one by the Town Board on March 11, 2019 (the "Town Zoning Changes"), in issuing two findings statements on a proposed zoning changes, one by the Town Planning Board on January 16, 2019 and one by the Town Board on March 11, 2019 (the "Town Findings Statements"), and for the town's role as an involved agency in issuing the Hakes FSEIS.

Petitioners contend that the DEC Permits, the DEC Findings Statement, the Hakes FSEIS, the Town Zoning Changes and the Town Findings Statements are legally deficient and must be annulled because Respondent DEC and Respondent Town failed to comply with the requirements of SEQRA and the SEQRA regulations when they approved the Hakes Landfill

expansion project without taking a "hard look" at the evidence provided by Petitioners from the landfill's own leachate test results regarding the presence of high levels of radium and radon in the landfill and the ineffectiveness of the landfill's entrance monitors in detecting radium and radon in wastes entering the landfill, and without testing for radioactivity in the landfill, requiring the installation of effective entrance monitors or taking any other measures to mitigate radioactivity risks in the landfill.

STATEMENT OF FACTS

The facts of this case are set forth in the amended verified petition.

STATUTORY AND REGULATORY FRAMEWORK

SEQRA was enacted by the New York State Legislature in 1976. The purpose of SEQRA is to:

> Declare a State policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and enhance human and community resources; and to enrich the understanding of the ecological systems, natural, human and community resources important to the people of the State.

ECL § 8-0101. While SEQRA was patterned after its Federal counterpart, the National Environmental Policy Act ("NEPA"), 42 USCA 4332 *et seq*., the Legislature recognized that NEPA was merely a procedural statute that assures that environmental issues are considered by a decision maker prior to taking any action. NEPA does not require substantive decisions by the decision maker. See *City of Buffalo v New York State Department of Environmental Conservation*, 184 Misc.2d 243 (Erie Cty 2000). The Legislature wished to provide greater protection to the environment when it passed SEQRA, and therefore, made significant changes from NEPA, including the requirement that environmental impact statements must be prepared

in a much broader category of actions, and the requirement of substantive duties on the part of the decision maker to assure that environmental consequences that are identified will be avoided or mitigated. *Id.* As pointed out in the *City of Buffalo* case:

> The substantive mandate of SEQRA is much broader than that NEPA. 42 USCA Section 4332 requires federal agencies to prepare an EIS [Environmental Impact Statement] for 'any major federal action significantly affecting the quality of the human environment.' This should be contrasted with Section 8-0109 of SEQRA which is more expansive it its terms. Subdivision 2 of this Section requires an EIS for 'any action which is proposed or approved which *may* have a significant effect on the environment.' Only a 'low threshold' is required to trigger SEQRA review."

Id. at 249 [citations omitted, emphasis added].

The heart of SEQRA lies in its provision regarding Environmental Impact Statements. *Williamsburg Around the Bridge Block Association v. Giuliani*, 223 A.D.2d 64 (1st Dep't 1996). As previously indicated, the law provides that whenever an action *may* have a significant impact on the environment, an Environmental Impact Statement ("EIS") shall be prepared. ECL 8-0109(2). The agency having principle responsibility for carrying out or approving the project or activity is charged with the responsibility of determining whether the project under consideration may have significant adverse environmental effects, and if so, must prepare an EIS. *Id*. The "lead agency" is the entity charged with carrying out the procedures mandated by SEQRA.

Procedurally, once an agency determines that an EIS is required, it must prepare or cause to be prepared a Draft EIS ("DEIS"). This procedure will ferret out the various environmental impacts of the proposed action and set the stage for reasonable mitigation of the impacts. SEQRA requires that a DEIS be made available to the public so that the public is apprised of possible adverse environmental consequences and may comment and propose mitigating measures. *Id*. Unless the agency withdraws the proposed action or determines that it will not have a significant effect on the environment, the agency must prepare a Final EIS ("FEIS").

Before approving an action that has been the subject of an FEIS, an agency must consider the FEIS, make written findings that the requirements of SEQRA have been met, and prepare a written statement of the facts and conclusions relied on in the FEIS or comments. It is at this stage that mitigation measures are imposed.

Substantively, an EIS is required to contain all the information necessary to assure that the decision-making bodies relying on the EIS can ultimately determine to go forward or not with a project in a manner that will create the least negative impact to the environment. An EIS must set forth a description of the proposed action, including an environmental impact and any unavoidable adverse environmental effects and alternatives to the proposed action, including a "no-action alternative." Meaningful mitigation measures must then be proposed to minimize the environmental impact. In addition, SEQRA requires agencies to "act and choose alternatives which, consistent with social, economic and other essential considerations, to the maximum extent practicable, minimize or avoid adverse environmental effects." ECL 8-0109(1). Indeed, an agency may not approve an action unless it makes an explicit finding that SEQRA's requirements have been met and that the adverse environmental effects revealed in the EIS process will be minimized or avoided "by incorporating as conditions to the decision those mitigative measures which were identified as practicable." 6 NYCRR 617.9(c)(2)(ii).

Since the early landmark cases of *Town of Henrietta v Department of Environmental Conservation*, 76 A.D.2d 215 (4th Dep't 1980), and *H.O.M.E.S. v New York State Urban Development Corporation*, 69 A.D.2d 222 (4th Dep't 1979), New York courts have addressed the requirements and responsibilities of agencies pursuant to SEQRA on numerous occasions. Early on in these cases, courts recognized that because of the importance placed upon SEQRA responsibilities by the Legislature, substantial compliance with SEQRA will not suffice; rather

the statute must be strictly and literally construed, and compliance with the procedural requirements must be enforced. *Matter of Rye Town/King Civic Association v Town of Rye*, 82 A.D.2d 474 (2nd Dep't 1981), *lv. app. dism*. 56 N.Y.2d 985 (1982); *Schenectady Chemicals v Flack*, 83 A.D.2d 460 (3rd Dep't 1991); *Williamsburg Around the Bridge Block Association v. Giuliani*, 223 A.D.2d 64 (1st Dep't 1996). In a frequently-cited quotation, the court in *Schenectady Chemicals* stated:

> By enacting SEQRA, the Legislature created a procedural framework which was specifically designed to protect the environment by requiring parties to identify possible environmental changes 'before they have reached ecological points of no return.' At the core of this framework is the EIS, which acts as an environmental 'alarm bell.' It is our view that the substance of SEQRA cannot be achieved without its procedure, and that *any attempt to deviate from its provisions will undermine the law's express purposes. Accordingly, we hold that an agency must comply with both the letter and spirit of SEQRA before it will be found that it has discharged its responsibility thereunder.*

83 A.D.2d at 478 [citations omitted, emphasis added]. New York courts continue to adhere to this strict and literal compliance standard as necessary to fulfill the goals of SEQRA, and not just because the Legislature mandated that the act be carried out "to the fullest extent" practicable. ECL 8-0103(6). In addition, the courts have recognized that to assure that both the spirit and letter of SEQRA are followed, courts cannot allow a lead agency the rubric of "substantial compliance" to escape the environmental goals of the Act. See, *e.g., Stony Brook Village v Reilly*, 299 A.D.2d 481 (2d Dep't 2002), *Matter of Rye Town*, 82 A.D.2d 474.

Moreover, if a lead agency is allowed to rectify a SEQRA procedural violation without voiding the actions taken after the violation occurred and requiring it to be done properly, the lead agency could treat the renewed work as a mere post-hoc rationalization of what had gone on before. The Court of Appeals decision in *Tri-County Taxpayers Association v Town of Queensbury*, 55 N.Y.2d 41 (1982) is instructive. In that case, the Appellate Division, with two

judges dissenting on the issue of remedy, determined that nullifying a vote of the electorate that took place prior to SEQRA compliance "would serve no useful purpose to undo what has already been accomplished . . . ." 79 A.D.2d 337 (3d Dep't 1981) at 342. However, the Court of Appeals adopted the position of the dissenters, holding that in order to properly ensure that the goals of SEQRA would be met, the vote had to be nullified. The Court stated:

> It is accurate to say, of course, that by actions of rescission later adopted the Town Board could have reversed the action authorizing the establishment of the sewer district. As a practical matter, for several reasons, however, the dynamics and freedom of decision-making with respect to a proposal to rescind a prior action are significantly more constrained than when the action is first under consideration for adoption.

55 N.Y.2d at 64. Therefore, where a procedural violation of SEQRA is found, in order to assure that the goals of SEQRA are met, the decision must be annulled.

While SEQRA requires a strict standard of compliance, the lead agency is allowed to fulfill substantive duties in making its final decision and choosing from appropriate alternatives is within their discretion. However, the broader discretion that resides with an agency concerning its substantive duties does not insulate the agency from judicial review. Indeed, in the case of *Akpan v Koch*, 75 N.Y.2d 561 (1990), the court elucidated the standard of review concerning substantive matters:

> Nevertheless, an agency, acting as a rationale decision-maker, must have conducted an investigation and reasonably exercised its discretion so as to make a reasoned elaboration as to the affect of a proposed action on a particular environmental concern. Thus, while a court is not free to substitute its judgment for that of the agency on substantive matters, the court must insure that, in light of the circumstances of a particular case, the agency has given due consideration to pertinent environmental factors.

75 N.Y.2d at 571 [citations omitted].

The universally applied standard in determining whether or not a lead agency has fulfilled its SEQRA obligations was first espoused in the *H.O.M.E.S.* case, *supra*, and eventually incorporated in the SEQRA regulations at 6 NYCRR 617.7(b). The standard is commonly called the "hard look standard." It requires that the agency:

(1) Identify all areas of relevant environmental concern;

(2) Thoroughly analyze the identified relevant areas of environmental concern to determine if the action may have a significant adverse impact on the environment; and

(3) Present a reasoned elaboration for why these identified environmental impacts will not adversely affect the environment, in the event that it is determined that an EIS need not be drafted.

Jackson v New York State Urban Dev. Corp., 67 N.Y.2d 400, 417 (1986). The "hard look" standard is further elucidated by the Court of Appeals in *Akpan v. Koch*, 75 N.Y.2d 561 (1990):

> [A]n agency, acting as a rational decision-maker, must have conducted an investigation and reasonably exercised its discretion so as to make a reasoned elaboration as to the effect of a proposed action on a particular environmental concern (see, *H.O.M.E.S. v New York State Urban Dev. Corp.*, 69 A.D.2d, at 231, supra). Thus, while a court is not free to substitute its judgment for that of the agency on substantive matters, the court must insure that, in light of the circumstances of a particular case, the agency has given due consideration to pertinent environmental factors.

Id. at 571. This standard is incorporated in the SEQRA regulations at 6 NYCRR 617.7(b).

ARGUMENT

The key legal issue presented by this case is whether Respondent DEC, acting as "lead agency," and Respondent Town, acting as an "involved agency," met the "hard look" standard applied to agency decision-making under SEQRA when they issued their positive findings

statements on the Hakes Landfill expansion without investigating the scientific evidence presented by Petitioners of high levels of radium and radon in the Hakes landfill or providing a reasoned elaboration for their dismissal of Petitioners' evidence. The second legal issue is whether Respondent DEC and Respondent Town met their responsibilities under SEQRA when they failed to mitigate the risks of radium and radon in the landfill by failing to require the installation of radiation monitors capable of detecting radium and radon in wastes entering the landfill at the entrance to the landfill and by not taking any other measures to mitigate radioactivity risks in the landfill, but instead reducing the monitoring requirements for radionuclides in the Hakes Landfill leachate.

A. Respondent DEC and Respondent Town Failed to Take a Hard Look at Scientific Evidence of High Levels of Radium and Radon in the Hakes Landfill

Respondent DEC and Respondent Town violated their responsibilities as "lead agency" and as an "involved agency" under SEQRA and the SEQRA regulations in issuing findings statements and certifying that the requirements of ECL 8-0109 (8) and 6 NYCRR Part 617 had been met for the Hakes landfill expansion project without taking a hard look at the scientific evidence presented by Petitioners that high levels radium and radon are present in the landfill, that the landfill's entrance monitors are ineffective in detecting radium and radon in wastes entering the landfill and that the health impacts of the levels of radium and radon identified by Petitioners are significant. Respondent DEC and Respondent Town did not investigate the scientific evidence provided by Petitioners and provided no substantial evidence to support their dismissal of Petitioners' evidence or provide a reasoned elaboration for why allowing the landfill to expand its operations despite having high levels of radium and radon and ineffective entrance monitors will not have an adverse effect on the environment and the health and safety of the people, animals and plants living near the landfill.

Respondent Town participated as an involved agency in the SEQRA review of the Hakes Landfill expansion project and participated in accepting the Hakes DSEIS and the Hakes FSEIS. Appendix 5 to the Hakes FSEIS contained Respondent Town's response to comments on the FSEIS. Attached as an exhibit to the Town response was a May 2018 report prepared by CoPhysics Corporation (the "CoPhysics Report") and provided to the Town by Casella Waste Systems, Inc., the parent company of Respondent HCDD.

.Pursuant to 6 NYCRR 617.11(d)(5), Respondent DEC and Respondent Town must "certify that consistent with social, economic and other essential considerations from among the reasonable alternatives available, the action is one that avoids or minimizes adverse environmental impacts to the maximum extent practicable, and that adverse environmental impacts will be avoided or minimized to the maximum extent practicable by incorporating as conditions to the decision those mitigative measures that were identified as practicable." The Hakes FSEIS fails to support such a determination.

In determining the applicability of the "hard look" standard to Respondent DEC's and Respondent Town's consideration of radioactivity issues in their SEQRA review of the Hakes Landfill expansion, it is necessary to review how radioactivity issues were addressed in the Hakes DSEIS, the Hakes FSEIS, the DEC Findings Statement and the Town Findings Statements and what consideration Respondent DEC and Respondent Town gave to the radioactivity evidence presented by Petitioners.

Respondent DEC took lead agency status for the Hakes landfill expansion project. Respondent DEC determined that Respondent HCDD's application to expand the Hakes Landfill might have a significant adverse impact on the environment and required the preparation of a Draft Supplemental Environmental Impact Statement (the "Hakes DSEIS). The DSEIS for the

Hakes expansion project was issued on January 8, 2018. The Hakes DSEIS mentioned radioactivity issues as one of the possible environmental impacts to be considered in the environmental review process for the Hakes Landfill expansion project, but dismissed them as a concern.

Petitioners filed their evidence regarding radioactivity in the landfill's leachate test results, the ineffectiveness of the landfill's entrance monitors and the need for more radioactivity testing at the landfill with Respondent DEC and Respondent Town in the expert affidavits attached to Petitioners' March 19, 2018 comment letter on the Hakes DSEIS. The comment letter and the exhibits are attached to the affidavit of Kathryn Bartholomew, Chair of the Atlantic Chapter of the Sierra Club dated April 9, 2019 ("Bartholomew Aff. 1"), which was filed with the Verified Petition in this proceeding on April 9, 2019. Petitioners' evidence includes: (1) the affidavit by Dr. Raymond Vaughan, a professional geologist and consultant with extensive experience addressing radioactivity issues, describing the evidence of high levels of radioactivity in the Hakes Landfill leachate test results and its significance dated January 18, 2018, and attached as Exhibit 1 to Exhibit B to Bartholomew Aff. 1, (2) the affidavit by Mr. Dustin May, supervisor of the Radiochemistry Department of the State Hygienic Laboratory at the University of Iowa, the State of Iowa's public health laboratory, discussing the significance the Hakes Landfill leachate test results dated January 18, 2018, and attached as Exhibit 2 to Exhibit B to Bartholomew Aff. 1, (3) the affidavit by Dr. David Carpenter, Director of the Institute for Health and the Environment at the University at Albany and a former Director of the Wadsworth Center for Laboratories and Research of the New York State Department of Health, discussing the significance the Hakes Landfill leachate test results and possible health impacts dated January 17, 2018, and attached as Exhibit 3 to Exhibit B to Bartholomew Aff. 1, and (4) a presentation by

Dr. Vaughan on “Unresolved Issues for Disposal of Radium-bearing Wastes at Hakes Landfill” dated February 10, 2018, and attached as Exhibit C to Bartholomew Aff. 1.

Petitioners’ experts explain in their affidavits that the Hakes Landfill leachate test results show that several of the leachate samples tested contained extremely high levels of the radionuclides Lead-214 and Bismuth-214, while all the leachate samples tested showed consistently low levels of Radium-226. This evidence is key, because of the discrepancy between the low levels of Radium-226 and the intermittently high levels of Lead-214 and Bismuth-214. Radium-226, Radon-222, Lead-214, and Bismuth-214 are all part of a well-known radioactive decay chain that starts with Uranium-238. Each radionuclide in the decay chain is transformed at a predictable rate into its immediate decay product. Radium-226 is transformed into Radon-222, which in turn is transformed into Polonium-218 which is transformed into Lead-214, which is transformed into Bismuth-214. This radioactive transformation process follows mathematical rules that have been recognized for more than a century, allowing useful comparisons among radionuclides and their concentrations in air, water, soil, and leachate.

Because Lead-214 and Bismuth-214 are radioactive decay products of Radium-226 and Radon-222, Petitioners’ experts explained that the presence of high levels of Lead-214 and Bismuth-214 in the leachate test samples shows that the parent radionuclides Radium-226 and Radon-222 are also present at high levels in the landfill, either within the leachate itself or in close enough proximity to the leachate that their decay products Lead-214 and Bismuth-214 end up in the Hakes leachate.

Although the test results show only intermittently high levels of the radionuclides Lead-214 and Bismuth-214, Petitioners’ experts explained that the fact that these high levels are ever reached provides a basis for calculating radon levels in Hakes leachate ranging up to 270,000

pCi/L and radon levels in landfill gas ranging up to ~1.05 million pCi/L. The best explanation for the discrepancy between the high levels of Radon-222 in the landfill gas and the low levels of Radium-226 in the leachate, according to Petitioners' experts, is that the parent Radium-226 remains relatively "high and dry" in the landfill, immersed primarily in landfill gas rather than any hydrologically connected pool or stream of leachate, so that the constant decay of Radium-226 into Radon-222 occurs mainly within the landfill gas. Then Radon-222 migrates across the landfill gas/leachate interface and dissolves into the leachate.

Petitioners' experts explained that the low levels of Lead-214 and Bismuth-214 in many of the test samples may be the result of the difficulty in keeping the radon gas from escaping from the bottles used to contain the test samples during the collection process and the testing process, which is conducted approximately 21 days after sample collection. If the radon gas escapes before the testing is completed, the levels of Lead-214 and Bismuth-214 in the test results will be much lower than if all the radon present in the leachate is contained in the samples.

Petitioners' expert Dr. Vaughan explained in his affidavit why the type of radiation detection alarm used at the Hakes Landfill cannot be relied upon to detect waste entering the landfill. This is because the detector measures the gamma radiation emissions from Lead-214 and Bismuth-214. Just as in the case of the leachate sample collection bottles, if radon gas is allowed to escape from the truck loads of waste entering the landfill before the loads pass through the entrance monitors, the levels of Lead-214 and Bismuth-214 will be low and the waste load will not trigger the entrance monitors. The half-lives of Lead-214 and Bismuth-214 are each less than 30 minutes.

Petitioners' expert, Dr. Carpenter, explained that in the decay process of Uranium 238, the greatest health risk comes from alpha decay, and most of the progeny of Uranium 238 are alpha emitters. He said that Radon-222 is the form of greatest concern because it is a gas. He explained that while Radon-222 has a relatively short half-life of 3.8 days, its decay by alpha emission and its decay products are not gases, but are also alpha emitters with short half-lives. He said that when radon is inhaled and decays in the lung, its progeny deposit in the lung and undergo further decay, causing damage.

Dr. Carpenter concluded that: (a) there are substantial and significant risks to human health posed by the current procedures used at the Hakes Landfill and approved by Respondent DEC, (b) while the greatest threat to human health comes from inhalation of radon-222, other naturally occurring radioactive material (NORM) and the progeny of these elements pose significant threats to human health, and (c) inhalation is the route of exposure of greatest concern but other routes (ingestion, dermal absorption) are also possible.

After receiving Petitioners' comments requesting that the DSEIS be revised and radioactivity issues addressed more thoroughly and Petitioners' expert affidavits, and receiving many other public comments on the Hakes DSEIS, Respondent DEC issued the Hakes FSEIS on December 8, 2018. The Hakes FSEIS did not revise the Hakes DSEIS. It, dismissed the significance of the evidence presented by Petitioners' experts on the evidence on radium and radon in the landfill, did not address Petitioners' evidence that the landfill's entrance monitors are ineffective in detecting radium and radon in wastes entering the landfill, and did not includes any mitigations of the health impacts identified by Petitioners.

On February 21, 2019, Petitioners provided Respondent DEC and Respondent Town with a memorandum by Dr. Vaughan on the subject, "Hakes FSEIS does not rebut the evidence

presented by Sierra Club." This memorandum is attached as part of Exhibit D to Bartholomew Aff. 1. In his memorandum, Dr. Vaughan explained in detail why Respondent DEC and Respondent Town have offered no substantial evidence to support their conclusion that radioactivity in the Hakes Landfill is not a risk, why the points made in the Hakes FSEIS and the appended CoPhysics Report regarding testing methodologies, methods of calculating equilibrium and radioactive decay, landfill modeling studies and the possible effects of local geology are not valid, why the continued reliance on the entrance monitors is unwarranted, and why additional radiological testing must be done at the landfill to properly characterize radioactivity in the landfill. Dr. Vaughan explained why use of a test methodology promulgated by the US Environmental Protection Agency for the testing of gamma-emitting radionuclides, EPA Methodology 901.1 is valid and why Respondent DEC's decision in mid-2018 to discontinue requiring the use of this methodology in testing Hakes leachate is resulting in a radiological blind spot in understanding radioactivity in the Hakes Landfill because testing of Lead-214 and Bismuth-214 will not longer be required.

Dr. Vaughan explained that the methods used by Petitioners' experts to calculate equilibrium and radioactive decay are standard scientific principles and the concerns expressed in the Hakes FSEIS and the CoPhysics Report were based on obfuscations of these principles. Dr. Vaughan pointed out that, although the Hakes FSEIS and the CoPhysics Report refer to the local geology as a possible source for the radioactivity in the landfill, they offer no explanation or support for how radon levels as high as ~270,000 pCi/L in the landfill leachate and as high as ~1 million pCi/L in the landfill gas could possibly be derived from the local geology. Dr. Vaughan explained that neither of the Argonne landfill modeling studies relied upon in the Hakes FSEIS and the CoPhysics Report to show that impacts from radioactivity are minimal,

even from a modeled landfill that accepts radium-bearing waste up to 50 pCi/g radium, which is twice the nominal limit for Hakes landfill, provides a quantitative assessment of radon levels within the landfill, and that neither study addresses or provides a quantitative assessment of radon emissions through the cap of the modeled landfill. Thus, Dr. Vaughan explained neither study provides enough scientific detail to refute Petitioners' evidence of high radon levels in Hakes landfill. Dr. Vaughan described a more relevant landfill modeling study, the Walter study, that was not cited or acknowledged in the Hakes FSEIS and the CoPhysics Report. The landfill modeled by the Walter study, contained 50 pCi/g radium in its waste. Dr. Vaughan calculated based on the landfill gas emission rates and radon emission rates described in the Walter study, that the Walter landfill would have 300 to 20,000 pCi/L of radon in its landfill gas. Radon activities of 300 to 20,000 pCi/L in the Walter model are far less than 1 million pCi/L which Dr. Vaughan has calculated for radon in the Hakes landfill gas. (In his February 13, 2020 affidavit, Dr. Vaughan expands on this point and notes that his calculations of the levels of radon in the Walter landfill provide a basis for calculating the amount of radium in the Hakes Landfill because the level of radium in landfill waste will be roughly proportional to the level of radon in landfill gas, other factors being equal. Dr. Vaughan makes a rough estimate that if radon levels of 300 to 20,000 pCi/L can be produced by waste containing 50 pCi/g radium, then the Hakes Landfill would need to contain about 2500 to 175,000 pCi/g radium in its waste to produce ~1 million pCi/L of radon in its landfill gas. This range of 2500 to 175,000 pCi/g radium is far beyond the Hakes Landfill's nominal acceptance limit of 25 pCi/g.)

A comparison of the landfill modeled by the Walter study, which contained 50 pCi/g radium in its waste and produced 300 to 20,000 pCi/L of radon in its landfill gas with the Hakes Landfill indicates that the Hakes Landfill would need to contain about 2500 to 175,000 pCi/g

radium in its waste to produce ~1 million pCi/L of radon in its landfill gas. This range of 2500 to 175,000 pCi/g radium is far beyond the Hakes Landfill's nominal acceptance limit of 25 pCi/g.

On May 29, 2019, Respondent DEC announced that Respondent HCDD had filed applications for three permits for operation of the Hakes Landfill and announced that it would hold a legislative public hearing on the permit applications on June 27, 2019, and would accept written comments on the permit applications through June 28, 2019.

Many of Petitioners' members testified at the hearing on June 27, 2019, as did Sierra Club's expert, Dr. Vaughan. Petitioners Sierra Club, CCAC and PHE filed a comment letter on the permit applications on June 28, 2019, with Dr. Vaughan's comments attached as an exhibit. These comments are attached to the accompanying affidavit of Kathryn Bartholomew dated February 12, 2010 in support of the amended verified petition ("Bartholomew Aff. 2"). Widespread public concern over radioactivity issues at the Hakes Landfill is demonstrated by the large numbers of comments filed on the Hakes Landfill expansion project. Petitioners estimate that approximately 2500 comments were filed at different stages of the project.

In their written comments and in comments made at the hearing, Petitioners requested that Respondent DEC conduct a DEC administrative proceeding to address disputed issues of fact related to radioactivity in the landfill. The disputed facts identified by Petitioners included: (1) Whether there are deficiencies with EPA test methodology 901.1 for measuring radioactivity in drinking water that invalidate the use of that method to test for the presence of Lead-214 and Bismuth-214 in landfill leachate? (2) What is the correct method of back-calculation (decay-correction) to determine radon levels in the landfill's leachate based on the Lead-214 and Bismuth-214 test results? (3) Whether recent tests of Lead-210 in the landfill leachate invalidate earlier test results measuring high levels of Lead-214 and Bismuth-214 in the landfill leachate?

(4) Whether it is possible that the high levels of radium breakdown products in the landfill leachate test results are measuring radiation coming from area geology? (5) Whether the presence of high levels of radium breakdown products in the landfill leachate demonstrates that the landfill's entrance monitors are not able to detect radium-bearing wastes entering the landfill? and (6) Whether the levels of radium and radon in the landfill pose significant health risks to workers at the landfill, the neighbors of the landfill, those living downwind and downstream and the environment?

Respondent DEC did not respond to the requests for an administrative proceeding addressing radioactivity issues in the landfill. On December 19, 2019, Respondent DEC issued the DEC Findings Statement, a Permit Responsiveness Summary and a modified Part 360 Series Solid Waste Management Permit, an Air State Facility Permit, and a 401 Water Quality Certification to Respondent HCDD. The DEC Findings Statement dismissed the significance of the radioactivity evidence submitted by Petitioners. It certified that the requirements of 6 NYCRR Part 617 and determined that "the proposed Hakes C&D Debris Landfill Expansion will include measures that avoid, minimize, and mitigate adverse environmental impacts to the maximum extent practicable. Therefore, the SEQR record for this project supports the Department's approval of the necessary DEC permits for the project."

Respondent Town had previously issued the Town Findings Statements on January 16, 2019 and March 11, 2019. The Town Findings Statements similarly dismissed the significance of the radioactivity evidence submitted by Petitioners and similarly certified that the requirements of 6 NYCRR Part 617 had been met.

Because Respondent DEC and Respondent Town did not correct their failures to investigate Petitioners' scientific evidence regarding radium and radon in the Hakes Landfill in

the DEC Findings Statement, the Town Findings Statement or in the Hakes FSEIS, Respondent DEC erred in issuing the DEC Findings Statement and Respondent Town erred in issuing the Town Findings Statements.

A real investigation of radioactivity issues in the Hakes Landfill requires that testing be conducted at the landfill and Respondent DEC has not overseen any such tests. Such investigations are not merely an academic exercise but are necessary to evaluate the health risks to which workers and neighbors of the landfill will be exposed. As stated above, Dr. Carpenter concludes that there are substantial and significant risks to human health posed by the current procedures used at the Hakes Landfill and that while the greatest threat to human health comes from inhalation of Radon-222, other radionuclides also pose significant threats to human health. He states that the net effect of New York accepting drill cuttings and de-watered mud from Pennsylvania fracking sites will be the New Yorkers will have an increased risk of cancer, especially lung and gastrointestinal cancers, an increased risk of birth defects coming from DNA damage and increased risk of a shortened life span.

Respondent DEC's efforts to ignore the key, disputed issue of radioactivity in the Hakes Landfill parallels its actions in *Matter of Chemical Manufacturers Assn v. Jorling*, 85 N.Y.2d 382 (1995). In that case the Court of Appeals annulled a regulation promulgated by DEC regarding the use of DEET on the ground that DEC did not take a "hard look" at the relevant environmental concerns, or make a reasoned elaboration of the basis for its declaration of non-significance under SEQRA when DEC failed to conduct an investigation into the potential adverse effects of removing high concentration DEET products from the market. The court stated, "Similar agency efforts to ignore key, disputed issues have repeatedly been rejected in the past." *Id*. at 411. The court set forth its reasoning in some detail:

Because of the lack of adequate studies, it is unknown what concentrations of DEET adequately protect humans against the ticks which spread Lyme Disease. DEC actually concedes this point and its lack of knowledge on the issue (see, Rep of Bureau of Toxic Substance Assessment of NY State Dept of Health, May 20, 1991, record on appeal, at 290). Nevertheless, DEC expects that it can issue a negative declaration in this case without conducting any preaction investigation of the potential adverse effects of removing high concentration DEET products from the market.

Similar agency efforts to ignore key, disputed issues have repeatedly been rejected in the past (see, e.g., *Matter of Golten Mar. Co. v New York State Dept. of Envtl. Conservation*, 193 AD2d 742, 743 [DEC did not examine area of environmental concern]; *Purchase Envtl. Protective Assn. v Strati*, 163 AD2d 596, 597-598 [Town Planning Board violated SEQRA when it failed to make a "coherent evaluation" of wetlands; moreover, Board's "hard look" obligation had to be made on the record and could not be delegated to expert consultants]; *Matter of Desmond-Americana v Jorling*, 153 AD2d 4, 10-11, lv denied 75 N.Y.2d 709 [negative declaration violated SEQRA because DEC conducted only "cursory examination" of impact its regulations establishing comprehensive system for prior notification of pesticide applications in the commercial lawn context would have on existing integrated pest management system]; *Matter of Save the Pine Bush v Planning Bd.*, 130 AD2d 1 [Planning Board did not consider key question of the minimal acreage required for continued survival of Pine Bush ecology]; *H.O.M.E.S v New York State Urban Dev. Corp.,* 69 AD2d 222, 232 [UDC failed to analyze traffic and parking problems its project entailed]).

DEC's obligation under the circumstances of this case was to perform a "thorough and meaningful review" (see, *Matter of Desmond-Americana v Jorling*, 153 AD2d 4, 11; see also, *Chinese Staff*, supra, at 364). DEC conducted no such review. Despite the sharply disputed evidence in the record concerning the impact banning high concentration DEET products would have on the incidence of Lyme Disease, and DEC's conceded lack of knowledge on this issue, DEC answered the questions whether its action could result in any adverse environmental effects, or any controversies related thereto, with a single word — "No" (record on appeal, at 829). Later, in issuing a Revised Negative Declaration, DEC brushed aside with one conclusory sentence all of the authoritative statements and sharply disputed evidence pertaining to the possible increased danger of contracting Lyme Disease: "No increase in the incidence of vector-borne diseases is expected to result from this rule" (id., at 371).

Id. at 411-412. Just as Respondent DEC acted in the *Chemical Mfrs* case to issue DEET regulations without conducting adequate studies or investigating the potential adverse effects of removing high concentration DEET products from the market, so to in the present case Respondent DEC acted to approve the Hakes Landfill expansion without conducting adequate studies or investigating the actual amounts of radioactivity present in the Hakes Landill.

In addition to the cases cited the above quote from the *Chemical Mfrs* case, a number of more recent cases have also annulled SEQRA determinations when the agency conducting the SEQRA review did not investigate information provided to it. See *e.g., Matter of Wellsville Citizens for Responsible Dev. v. Wal-Mart Stores,* 140 A.D.3d 1767 (4th Dept. 2016), (annulling a negative declaration for the construction of a Wal-Mart because the lead agency failed to investigate the veracity of information received from the public that state-listed threatened species might be present on the project site); *Matter of Rochester Eastside Residents For Appropriate Development, Inc. v. City of Rochester,* 150 A.D. 3d 1678, 1699 (4th Dept. 2017) (annulling a negative declaration, zoning variances and a special use permit because the agency did not give a reasoned elaboration of the basis for the its determination regarding the undisputed presence of pre-existing soil contamination on the project site); *Matter of Kittredge v Planning Bd. of Town of Liberty*, 57 A.D.3d 1336, 1337-1338 (3rd Dept. 2008) (vacating a negative declaration because there was no evidence in the record that the Board conducted an investigation and reasonably exercised its discretion so as to make a reasoned elaboration as to the effect of the development on wildlife, despite concerns raised by the public); and *Matter of Pyramid Co. of Watertown v Planning Bd. of Town of Watertown*, 24 AD3d 1312, 1314-1315 (4th Dept. 2005) (annulling a Board determination after an FEIS because "although the findings statement contained a plan to provide species protection by grass mowing on part of the site,

there otherwise were no field studies or expert reports to provide the requisite quantitative and scientific basis for the Board's approval. . . . Similar agency efforts to ignore key, disputed issues have repeatedly been rejected in the past."). Accord *Matter of Citizens Against Retail Sprawl v Giza*, 280 A.D.2d 234 (4th Dept 2001), *Matter of Mattia v. Village of Pittsford*, 61 Misc. 3d 592 (Monroe County 2017), *Matter of Brander v. Town of Warren Town Board*, 18 Misc.3d 477 (Onondaga County 2007).

The affidavits submitted by Petitioners' experts Dr. Vaughan, Dr. Carpenter and Dr. May demonstrate that in ignoring the laboratory analysis of the landfill leachate and in relying on the adequacy of the radiation detector alarms at the landfill, Respondent DEC ignored strong scientific evidence regarding the presence of high levels of radium and radon in the landfill without having any substantial evidence to the contrary.

In *Matter of Jackson v New York State Urban Dev. Corp*., 67 N.Y.2d at 425) the court stated that, "If an adequate basis for a determination is shown 'and the objector cannot show that the determination was 'without foundation', the agency's determination should be confirmed.'" In this case, Petitioners show that the determinations made by Respondent DEC and Respondent Town on radioactivity issues were without foundation. Consequently, Respondent DEC and Respondent Town do not meet the "hard look standard" standard.

For these reasons, the actions of Respondent DEC and Respondent Town in issuing the DEC Permits, the DEC Findings Statement, the Hakes FSEIS, the Town Findings Statements and the Town Zoning Changes were made in violation of lawful procedures, were affected by errors of fact and law, were arbitrary and capricious, were not supported by substantial evidence, and their issuance constituted an abuse of discretion.

B. Respondent DEC and Respondent Town Failed to Mitigate the Risks of Radioactivity in the Landfill

In addition to its procedural requirements, SEQRA imposes substantive requirements that include implementing mitigation measures to minimize the environmental impact of the proposed project. ECL 8-0109(2)(f). *Matter of WEOK Broadcasting Corp. v. Planning Board of the Town of Lloyd*, 79 N.Y.2d 373, 381 (1992). In the present case, Respondent DEC and Respondent Town proposed no mitigation measures to deal with the risk of harmful health effects from high levels of radium and radon in the landfill or the ineffectiveness of the landfill's entrance monitors in detecting radium and radon in wastes entering the landfill.

SEQRA requires agencies to "act and choose alternatives which, consistent with social, economic and other essential considerations, to the maximum extent practicable, minimize or avoid adverse environmental effects." ECL §8-0109(1).

Respondent DEC's reliance on the current landfill entrance monitors to protect against radium and radon entering the landfill is without foundation given the evidence Dr. Vaughan has presented regarding the inability of the detectors to measure radium breakdown products if radon has been allowed to off-gas from a waste load, the monitors will not detect the radium in the load. Other mitigation measures, including more effective entrance monitors, should have been evaluated and were not.

Petitioners identified a number of risks to health and the environment from having high levels of radium and radon in the Hakes Landfill in their March 19, 2018, comment letter on the DSEIS and in the affidavit of Dr. Carpenter attached to the comment letter. Respondent DEC and Respondent Town issued their positive findings statements on the Hakes Landfill expansion project without mitigating any of these risks.

For these reasons, the actions of Respondent DEC and Respondent Town in issuing the DEC Permits, the DEC Findings Statement, the Hakes FSEIS, the Town Findings Statements and the Town Zoning Changes without mitigating the risks of radiation in the landfill were made in violation of lawful procedures, were affected by errors of fact and law, were arbitrary and capricious, were not supported by substantial evidence, and their issuance constituted an abuse of discretion.

CONCLUSION

For the reasons stated above, Respondent DEC and Respondent Town have failed to comply with the requirements of SEQRA and Petitioners' respectfully request that the Court vacate and annul the DEC Permits, the DEC Findings Statement, the Hakes FSEIS, the Town Zoning Changes and the Town Findings Statements on the ground that they were issued in violation of lawful procedures, were affected by errors of fact and law, were arbitrary and capricious, were not supported by substantial evidence, and their issuance constituted an abuse of discretion, and enjoin Respondent DEC and Respondent Town from approving any future applications by Respondent HCDD relating to its proposed expansion of the Hakes landfill until Respondents have complied with all applicable federal and state laws.

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Respectfully submitted,

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