

New York State Department of Environmental Conservation

In the Matter of the Application of

FINGER LAKES LPG STORAGE, LLC

**Application Number
8-4432-00085**

**for a permit pursuant to the Environmental Conservation
Law to construct and operate a new underground liquid
petroleum gas storage facility in the Town of Reading,
Schuyler County**

POST-ISSUES-CONFERENCE CLOSING BRIEF OF GAS FREE SENECA

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<i>Matter of Besicorp-Empire Dev. Co., LLC</i> , Decision of the Commissioner, 2004 WL 2132941 (DEC, Sep. 23, 2004)	76
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<i>Matter Buffalo Crushed Stone, Inc.</i> , Decision of the Commissioner, 2008 WL 5955358 (DEC, Nov. 17, 2008)	85
<i>Matter of Cobleskill Stone Prods., Inc.</i> , Ruling on Issues and Party Status, DEC Project No. 4-4342-0001/00019 (DEC, July 23, 2008), http://www.dec.ny.gov/hearings/45420.html	76
<i>Matter of Crossroads Ventures, LLC</i> , Interim Decision of the Deputy Commissioner, 2006 WL 3873403 (DEC, Dec. 29, 2006).....	<i>passim</i>
<i>Matter of Dalrymple Gravel & Contracting Co.</i> , Ruling on Issues and Party Status, 2001 WL 1172598 (DEC, Sept. 25, 2001)	61
<i>Matter of Entergy Nuclear Indian Point 2, LLC and Entergy Nuclear Indian Point 3, LLC</i> , Interim Decision of the Assistant Commissioner, 2008 WL 4693295 (DEC, Aug. 13, 2008)	84, 85
<i>Matter of Halfmoon Water Improvement Area No. 1</i> , Decision of Commissioner, 1982 WL 25856 (DEC, Apr. 2, 1982)	18
<i>Matter of Hydra-Co Generations, Inc.</i> , Interim Decision of the Commissioner, 1988 WL 1095749 (DEC, Apr. 1, 1988)	5, 18, 47
<i>Matter of Hyland Facility Associates</i> , Decision of the Commissioner, 1993 WL 267919 (DEC, June 21, 1993).....	37

Matter of Lane Constr. Co.,
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Matter of Metro Recycling & Crushing, Inc.,
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2005)18

Matter of Oneida-Herkimer Solid Waste Mgt. Auth.,
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30, 2001)13

Matter of Palumbo Block Co.,
Ruling on Issues and Party Status, 2001 WL 176029 (DEC, Feb. 9, 2001).....4

Matter of Palumbo Block Co.,
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Matter of Red Wing Prop., Inc.,
Interim Decision of the Commissioner, 2010 WL 3366172 (DEC, May 19,
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Matter of Seneca Meadows, Inc.,
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Matter of Sithe/Independence Power Partners, L.P.,
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Matter of St. Lawrence Cement,
Initial Rulings of the ALJs on Party Status and Issues, 2001 WL 1587361
(DEC, Dec. 7, 2001)72

Matter of St. Lawrence Cement, Co.,
First Interim Decision, 2002 WL 31930486 (DEC, Dec. 6, 2002).....59

Matter of St. Lawrence Cement Co, LLC, Second Interim Decision of the
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Matter of Supt. of Fish Culture,
Interim Decision, 1999 WL 1008317 (DEC, Aug. 19, 1999).....18

Matter of WHIBCO, Inc.,
Ruling on Issues and Party Status, 1996 WL 33141599 (DEC, Apr. 26, 1996).....4, 41

Matter of WHIBCO, Inc.,
Interim Decision,1998 WL 389014, (DEC, Jun. 15, 1998)76, 77

Cases

Aldrich v. Pattison,
107 A.D.2d 258 (2d Dep’t 1985)4

Chinese Staff & Workers Assn. v. City of New York,
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County of Orange v. Vill. of Kiryas Joel,
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Flynn v. Burlington N. Santa Fe Corp.,
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Green Mountain R.R. Corp. v. Vermont,
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H.O.M.E.S. v. New York State Urban Dev. Corp.,
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Matter of Karuvath Enu v. Sobol,
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Matter of Lampidis v. Mills,
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Lane Const. Corp. v. Cahill,
270 A.D. 2d 609 (3d Dep’t 2000)41, 74

People v. Wesley,
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Save the Pine Bush v. City of Albany,
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Skyview Acres Co-op, Inc. v. Public Serv. Comm’n,
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Town of Dryden v. Tompkins County Bd. of Representatives,
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Village of Chestnut Ridge v. Town of Ramapo,
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Wal-Mart Stores v. Planning Bd. of Town of N. Elba,
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Webster Assoc. v. Town of Webster,
59 N.Y.2d 220 (1983)7, 9, 16

West Village Comm. Inc. v. Zagata,
242 A.D.2d 91 (3d Dep’t 1998)4, 8

Statutes

ECL § 8-0101 *et seq.*2

ECL § 8-0105.....12, 75

ECL § 8-0109.....5, 12, 59, 74

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6 NYCRR § 617.8(g)14

6 NYCRR § 617.9..... *passim*

6 NYCRR § 617.11..... *passim*

6 NYCRR § 624.4..... *passim*

6 NYCRR § 624.5(b)(3)(i).....85

Town of Reading Land Use Law § 4.10 (rev. 2009)84

Other Authorities

American Planning Association, *Community Character*,
<https://www.planning.org/research/arts/briefingpapers/character.htm>81

Arlington Storage Company, LLC, No. CP13-83-000, 147 FERC ¶ 61,120 (“Certificate Order”) (May 15, 2014), http://elibrary.ferc.gov/idmws/file_list.asp?document_id=14216327..... *passim*

Assn. of Am. Geographers, *What Geographers Do*,
http://www.aag.org/cs/jobs_and_careers/what_geographers_do/overview.....82

Borough of Riverdale – Petition for Declaratory Order – the N.Y. Susquehanna & W. Ry. Corp., STB F.D. No. 33466, 1999 WL 715272 (S.T.B., Sept. 9, 1999)40

C. Yang et al, *Analysis of major risk associated with hydrocarbon caverns in bedded salt rock*, 113 Reliability Engineering and System Safety (2013)43, 45

CSX, Railroad Equipment, *available at* <http://www.csx.com/index.cfm/customers/equipment/railroad-equipment/>.....49

D. J. Evans, *An appraisal of underground gas storage technologies and incidents, for the development of risk assessment methodology*, Health and Safety Executive of the United Kingdom (2008), *available at* <http://www.hse.gov.uk/research/rrpdf/rr605.pdf>42, 45

DEC, Final Generic Environmental Impact Statement on the Proposed Amendment to the SEQRA Regulations (Sept. 6, 1995).....8, 9

DEC, Revised Draft Supplemental Environmental Impact Statement for the Oil, Gas and Solution Mining Regulatory Program (“RDSGEIS”) (2011), <http://www.dec.ny.gov/energy/75370.html> *passim*

DEC’s Program Policy, *Assessing and Mitigating Noise Impacts* (2001) (“Noise Policy”) *passim*

DEC, *The SEQR Handbook* (3d ed. 2010), *available at* http://www.dec.ny.gov/docs/permits_ej_operations_pdf/seqrhandbook.pdf (“SEQR Handbook”)4, 7, 9, 13

DEIS, Sterling Forest Resort, <http://www.tuxedogov.org/sterlingforestresort/deis>62

Ecology & Environment, Bellayre Mountain Ski Center UMP-DEIS (“Bellayre DEIS”), App. AG (20011), http://www.dec.ny.gov/docs/permits_ej_operations_pdf/bellappag1.pdf61, 62, 67

Edition, Geographers, at <http://www.bls.gov/ooh/life-physical-and-social-science/geographers.htm>.....82

Emma-Jane Robinson, *A Sense of Place—a Model to Compare Places, Peoples and Their Relationships over Time—Salisbury Plain Revisited* (2006) (presented at the Forum UNESCO University and Heritage 10th International Seminar *Cultural Landscapes in the 21st Century* (2005))).....71

Ernst Meyer et al., *What Risk Should Public Accept from Chemical Process Facilities?*, 26 Process Safety Progress 2 (June 2007)45, 46

Hawaii Dep’t of Land & Natural Resources, Final Environmental Impact Statement for the Thirty Meter Telescope Project, Island of Hawai‘i, Appendix D, § 8 Cultural Landscape of Maunakea (2010), <http://dlnr.hawaii.gov/occl/files/2013/08/2010-05-08-HA-FEIS-Thirty-Meter-Telescope-Vol3.pdf>.....80

Health and Safety Executive, *Failure Rates for Underground Gas Storage*, available at <http://www.hse.gov.uk/research/rrpdf/rr671.pdf> (2008).....44

HSE HCRD, Hydrocarbon Releases System, Health and Safety Executive (2011) available at <https://www.hse.gov.uk/hcr3>44

Infinity Rail, Infinity Rail Products, Covered Hoppers, available at <http://www.infinityrail.com/covered-hoppers.html>49

ISO, ISO 17776:2000, Petroleum and natural gas industries -- Offshore production installations -- Guidelines on tools and techniques for hazard identification and risk assessment, available at http://www.iso.org/iso/catalogue_detail.htm?csnumber=31534 (accessed Apr. 15, 2015)41, 42, 46

ISO, ISO 31000:2009, Risk management -- Principles and guidelines, available at http://www.iso.org/iso/catalogue_detail?csnumber=43170 (accessed Apr. 15, 2015)42

J.D. Halfman, *An update on the chloride hydrogeochemistry in Seneca Lake, New York*, Finger Lakes Institute, Hobart & William Smith Colleges (2014) (“Halfman 2014”)50

John K. Warren, *Evaporites: Sedimentology, Resources and Hydrocarbons*, (2006)42, 45

M.P. Anderson and W.W. Woessner, *Applied Groundwater Modeling: Simulation of Flow and Advective Transport* (1992).....55

M.R. Wing et al., *Intrusion of saline groundwater into Seneca and Cayuga Lakes, New York*, 40 *Limnology and Oceanography* 4 (1995) (“Wing 1995”)50

NETL, *Seneca Compressed Air Energy Storage (CAES) Project* (Sept. 2012) (“NETL Report”), <http://www.smartgrid.gov/sites/default/files/doc/files/NETL-Final-Report-9-6-12.pdf>32

NPS, *Guidelines for the Treatment of Cultural Landscapes*, <http://www.nps.gov/tps/standards/four-treatments/landscape-guidelines/>80

Propane Emergency/Response Guide for New England, Propane Gas Association
of New England rev. 30 (Sept. 9, 2009), *available at*
[http://www.mass.gov/eopss/docs/dfs/emergencyresponse/2008-emergency-
response-plan-rev-9-9-09.pdf](http://www.mass.gov/eopss/docs/dfs/emergencyresponse/2008-emergency-response-plan-rev-9-9-09.pdf).....47

R.A. Freeze, J.A. Cherry, *Groundwater* (1979).....57

Robert R. Page *et al.*, NPS, *A Guide to Cultural Landscape Reports: Contents,
Process, and Techniques* (1998),
[http://www.nps.gov/cultural_landscapes/Documents/Guide_t0_Cultural_Land
scapes.pdf](http://www.nps.gov/cultural_landscapes/Documents/Guide_t0_Cultural_Landscapes.pdf).....81

Steinmetz Planning Group, *Schuylers County Countywide Comprehensive Plan
(CWCP)* (2014).....84

W.R. Osterkamp., *Annotated Definitions of Selected Geomorphic Terms and
Related Terms of Hydrology, Sedimentology, Soil Science and Ecology*
(2008).....55

INTRODUCTION

Gas Free Seneca (“GFS”) seeks full party status in an adjudicatory hearing to consider the application of Finger Lakes LPG Storage, LLC (the “Applicant” or “FLLPG”) for permission to store liquid petroleum gas (“LPG”) in salt caverns under the western shore of Seneca Lake (the “Project”). *See* Petition for Full Party Status by Gas Free Seneca, dated January 16, 2015 (“GFS Petition”). GFS and its members expressed concerns about the Project’s potentially significant adverse impacts on the Seneca Lake community and its natural environment both during the scoping process and at hearings on the draft supplemental environmental impact statement (“DSEIS”) for the Project. At the issues conference held on February 12–13, 2015, GFS proffered evidence that the caverns are not suitable for LPG storage and that industrialization of the lakeshore by the Project—especially when added to the expansion of gas storage by Arlington Storage Company, LLC (“Arlington”), a corporate affiliate of the Applicant—threatens the tranquility and scenic beauty of a bucolic retreat enjoyed by both residents of the Seneca Lake community and a growing number of visitors to the Finger Lakes wine county.

In anticipation of an adjudicatory hearing, and in accordance with the Department’s rules, *see* 6 NYCRR § 624.4(b)(2)(iv), GFS asks the Administrative Law Judge (“ALJ”) to resolve the merits of some purely legal questions. *See infra* Section I. First, the ALJ should decide whether the scoping process relieves the New York State Department of Environmental Conservation (“DEC” or the “Department”) from the statutory obligation to take a hard look at all relevant areas of environmental concern before deciding whether to grant the permit application. Second, the DSEIS should be found insufficient as a matter of law for failure to analyze a reasonable range of alternatives, cumulative impacts, or community character. Finally, as a remedy for the

deficiencies, the Department (not the Applicant) should prepare a revised draft DSEIS or, at the very least, supplement the record with new analyses of the three omitted subjects, with an opportunity for public comment prior to the adjudicatory hearing.

In addition to resolution of the legal questions, GFS seeks adjudication of numerous substantive and significant disputed issues of fact, which are described with specificity in this brief. *See infra* Section II. In support of that request, GFS has proffered the reports and testimony of witnesses with the expertise required to opine on those issues, which fall generally into five categories: (1) cavern integrity, (2) public safety, (3) water quality, (4) noise, and (5) community character. *See* GFS Petition & Exs. 1–6. The offer of proof as to each issue raises serious doubts about the sufficiency of the DSEIS and DEC’s ability to make the findings required under the State Environmental Quality Review Act (“SEQRA”). *See* N.Y. Envtl. Conserv. L. (“ECL”) § 8-0101 *et seq.*; N.Y. Comp. Codes, R. & Regs. (“NYCRR”), tit. 6, § 617.9. The evidence also casts doubt on the Applicant’s ability to meet the statutory criteria for underground LPG storage, *see* ECL § 23-1301 (“Title 13”), even with the permit conditions proposed by DEC. The issues disputed by GFS are substantive because the doubts raised by its experts are sufficient such that a reasonable person would require additional inquiry, and the issues are significant because they are grounds for denial of the permit, a major modification of the Project, or the addition of significant permit conditions. *See* 6 NYCRR § 624.4(c)(2)–(3). The disputed factual issues identified by GFS therefore qualify for adjudication.

ARGUMENT

I. GFS Has Presented Legal Issues That Should Be Resolved on the Merits Before Holding an Adjudicatory Hearing.

The ALJ is empowered to resolve legal issues that are not dependent on disputed facts and can be resolved on the merits following argument at the issues conference. *See* 6 NYCRR § 624.4(b)(2)(iv). GFS raised and presented argument with respect to three such issues, all related to analyses omitted from the DSEIS.¹ *See* GFS Petition at 18–23 (discussing the failure to analyze reasonable alternatives, cumulative impacts, and effects on community character); Tr. 18–27, 93–96, 437–45, 493–98, 535–41, 563–73. The argument at the issues conference also raised two additional legal issues: whether those omissions can be excused by appeal to the formal scoping outline prepared for the DSEIS and, if not, what the remedy is for the deficient DSEIS. The discussion below demonstrates that narrow scoping is not an excuse for failure to consider required elements of an EIS, that the DSEIS unlawfully failed to analyze three relevant subjects, and that the appropriate remedy for those violations of SEQRA is revision of the DSEIS or supplementation with public comment.

A. The Scoping Outline Does Not Trump the Requirements of SEQRA.

Throughout the issues conference, the Applicant claimed that it did not need to address any issues that were excluded from the final scoping outline, including elements of an environmental impact statement (“EIS”) that are required under SEQRA and its regulations. *See, e.g.*, Tr. 47, 57, 65–66, 461–67, 470, 478–79. Contrary to that claim, the failure to identify an item in the final scoping outline does not excuse DEC from analyzing it in the DSEIS, when the Department later realizes that the scoping missed relevant issues. Under DEC guidance, an EIS

¹ Offers of proof are not required for issues that can be resolved as a matter of law. Should the ALJ determine that the omissions identified by GFS do not raise purely legal issues, he should consider the petitioners’ offers of proof as to those disputed issues.

should include environmental impacts that “*can be reasonably anticipated*”; have been identified in the scoping process; or both.” DEC, *The SEQR Handbook*, 102 (3d ed. 2010) (emphasis added), available at http://www.dec.ny.gov/docs/permits_ej_operations_pdf/seqrhandbook.pdf (“SEQR Handbook”). The SEQ Handbook also specifically provides that scoping aims to “[i]dentify the significant environmental conditions and resources which *may* be affected by the project.” *Id.* at 105. If strict adherence to the final scope will defeat the purpose of scoping, the draft EIS should expand the breadth of discussion to ensure an adequate review.

Moreover, whatever the results of the scoping process, the Department retains the ultimate responsibility to ensure that the DSEIS is adequate under SEQRA. *See West Village Comm. Inc. v. Zagata*, 242 A.D.2d 91, 97 (3d Dep’t 1998) (“[T]he ultimate authority to determine whether a draft EIS is adequate with respect to its scope and content remains with the lead agency.”); *see also* 6 NYCRR § 617.9(a)(2) (“[T]he lead agency will use the final written scope, if any, and the standards contained in this section to determine whether to accept the draft EIS as adequate with respect to its scope and content for the purpose of commencing public review.”). Whether an EIS complies with SEQRA does not hinge on the scoping process, but rather on whether DEC took a hard look at the potentially significant adverse impacts of the Project. *See Matter of WHIBCO, Inc.*, Ruling on Issues and Party Status, 1996 WL 33141599, *6 (DEC, Apr. 26, 1996) (“[S]ufficiency of an environmental impact statement, and its scope or lack of coverage of specific environmental concerns, is evaluated by the ‘hard look’ standard.”); *see also Matter of Palumbo Block Co.*, Ruling on Issues and Party Status, 2001 WL 176029, *9 (DEC, Feb. 9, 2001) (citing *Aldrich v. Pattison*, 107 A.D.2d 258 (2d Dep’t 1985)).

B. The DSEIS Is Insufficient as a Matter of Law.

The DSEIS does not contain three critical elements required under SEQRA. (1) It does not analyze all reasonable alternatives, including the no action alternative. (2) It does not discuss

the cumulative impacts of the Project and related activities at the Arlington facility. (3) It does not address potentially significant impacts on community character. The DSEIS thus is deficient as a matter of law.

1. The DSEIS Failed to Analyze Reasonable Alternatives to the Project.

a. The DSEIS Failed to Analyze Alternative Locations, Facility Designs, Project Scales, or Product Transportation Allocations.

An EIS must include a discussion of all “reasonable alternatives to the action that are feasible,” 6 NYCRR § 617.9(b)(5)(v), so that they can “form the basis for a decision whether or not to undertake or approve such action.” ECL § 8-0109(2); *see Town of Dryden v. Tompkins County Bd. of Representatives*, 78 N.Y.2d 331, 333–34 (1991) (stating that “to be meaningful, any choice among alternatives must be based on an awareness of all reasonable options”). While evaluations of private projects need not include an “evaluation of alternatives that manifestly would not achieve the objectives of the proposed project,” *Matter of Crossroads Ventures, LLC*, Interim Decision of the Deputy Commissioner, 2006 WL 3873403, *33 (DEC, Dec. 29, 2006) (citations omitted), “an applicant who proposes a project but offers no further alternatives risks the possibility that denial may be the only option for the agency, upon consideration of the environmental impacts,” *id.* In addition, for projects with far-reaching adverse impacts, it is “incumbent on the lead agency to more exhaustively review alternatives.” *Matter of Hydra-Co Generations, Inc.*, Interim Decision of the Commissioner, 1988 WL 1095749, *8 (DEC, Apr. 1, 1988).

The DSEIS contains a discussion of only four potential brine pond alternatives. *See* DSEIS at 170-73. It does not consider alternative Project sites, alternative layouts of any other portions of the Project, alternative Project scales, or alternative transportation allocations. Failure to address these plainly reasonable alternatives to the Project in the DSEIS makes it

impossible “to allow for a fully comparative analysis.” *See Crossroads Ventures*, 2006 WL 3873403, at *33. In *Crossroads Ventures*, the Deputy Commissioner rejected a draft EIS, even though it included an analysis of alternative sites and layouts, because the draft failed to discuss “reasonable smaller scale alternatives to the proposed project” and lacked a sufficiently detailed discussion of the “environmental impacts and the extent to which those impacts would be reduced” by eliminating particular components of the proposed project. *Id.* The Deputy Commissioner also explicitly rejected the applicant’s attempt to use the purported public need of the project to “limit applicant’[s] obligation under SEQRA to provide an evaluation of a reasonable range of project alternatives.” *Id.* at *34. The alternatives analysis in the DSEIS for the Project does not begin to meet the standard established in *Crossroads Ventures*.

At a minimum, the DSEIS should have analyzed product transportation alternatives. FLLPG’s December 2014 Product Transportation Allocation identified such an alternative—one that the Applicant plainly considers both reasonable and feasible—by reallocating LPG deliveries from trucks to pipelines and railroads.² There has been no evaluation of the environmental impacts of this alternative or any other potential reallocation. Nor is there any discussion of an alternative eliminating the truck depot, which would reduce Project scale and impacts.

In addition, during the issues conference, counsel for DEC admitted that the Department had considered an alternative site that was not mentioned in the DSEIS or anywhere else in the record: a facility in Savona, New York, already used for gas storage. *See* Tr. 483–85.

Department staff decided not to include an environmental analysis of that alternative site in the DSEIS because “it doesn’t have a salt plant,” and the brine disposal “i[s] not that fast.” *Id.* at

² *See* 2014-12-02, Product Transportation Allocation – Revised December 2014, letter and attachment. Although FLLPG claims to have adopted this alternative, there is no permit condition requiring this allocation, and the Applicant plans to build a truck depot notwithstanding its ostensible abandonment of truck transport.

484. Whether the Project would result in fewer adverse environmental impacts than an alternative facility in Savona is, however, precisely the type of question that should be resolved after full analysis in the DSEIS. *See, e.g., County of Orange v. Vill. of Kiryas Joel*, 44 A.D.3d 765, 769 (2d Dep’t 2007) (“Where an EIS identifies feasible alternatives to a proposed project, analyzes the impacts associated with those alternatives in comparison to the initial proposal, and incorporates aspects of the alternatives in mitigation of the impacts associated with the initial proposal, the lead agency has satisfied its obligations under SEQRA.”).

A behind-closed-doors dismissal of feasible and reasonable alternatives to the Project fundamentally undermines one of the basic purposes of SEQRA, which is to inform the public and ensure public participation in the SEQRA process. The Court of Appeals specifically held that “[t]he purpose of requiring inclusion of reasonable alternatives to a proposed project is to aid the *public* and governmental bodies in assessing the relative costs and benefits of the proposal.” *Webster Assoc. v. Town of Webster*, 59 N.Y.2d 220, 228 (1983) (emphasis added). The current record does not permit the public to understand the impacts of the Project as compared with those of its reasonable alternatives, because the DSEIS failed to include a discussion of those alternatives. The DSEIS is therefore insufficient as a matter of law.

b. An Analysis of the No Action Alternative May Not Lawfully Be Omitted from the DSEIS.

Department regulations plainly state that an EIS “must” include a description and evaluation of the no action alternative. 6 NYCRR § 617.9(b)(5)(v). DEC guidance also provides that the “no action alternative must *always* be discussed to provide a baseline for evaluation of impacts and comparisons of other impacts.”³ Failure to consider the no action alternative is a plain violation of SEQRA. *See Webster*, 59 N.Y.2d at 228.

³ SEQRA Handbook at 126 (emphasis added).

The DSEIS does not address the no action alternative. The Applicant argues that a discussion of the no action alternative was not required because it was not included in the final scoping outline. *See* Tr. 461–64. The scoping process cannot be used, however, to exclude elements of an EIS that are required by SEQRA. *See supra* Section I(A).

The Applicant and DEC also claim that a letter submitted by the Applicant to DEC in February 2012 corrects the failure to discuss the no action alternative in the DSEIS. *See* 2012-02-16, BSK to DEC Supplemental Information (“February 2012 Letter”); Tr. 480, 483. The February 2012 Letter fails, however, to “evaluate the adverse or beneficial site changes that are likely to occur in the reasonably foreseeable future, in the absence of the proposed action,” as required under SEQRA. 6 NYCRR § 617.9(b)(5)(v).⁴ The 2012 Letter contains only two sentences discussing the no action alternative:

In this case, the no action alternative would see the continuation of activities on the US Salt property, such as underground gas storage and solution mining activities. At the surface facility site, owned by Finger Lakes, there would be no activity at the site, although the surrounding properties would continue to be used for rail transportation, trucking, and perhaps solid waste storage.

February 2012 Letter at 8. These two sentences lack the detail necessary for a meaningful comparison of the Project’s impacts with those of the no action alternative, and they do not sufficiently discuss potential future uses of the site in the absence of the Project. *See* DEC, Final Generic Environmental Impact Statement on the Proposed Amendment to the SEQRA Regulations, 79 (Sept. 6, 1995) (“To only look at a site today or in the near term is an unfair

⁴ Although the SEQR Handbook provides that private applicants “may” confine the discussion of the no action alternative to the direct financial effects of not undertaking a project, the Department still has the responsibility to ensure that the DSEIS complies with SEQRA. *See Zagata*, 242 A.D.2d at 97 (stating that “the ultimate authority to determine whether a draft EIS is adequate with respect to its scope and content remains with the lead agency.”). As the ALJ stated during the issues conference, “if it’s a relatively minor project, the financial benefit would be sufficient, but in a major project perhaps not.” Tr. 461. In addition, DEC’s regulations require a balancing of the future no action alternative against the project proposal. *See* 6 NYCRR § 617.9(b)(5)(v).

characterization that may inappropriately preclude opportunities for natural or engineered site enhancement and increased value that should be weighed more objectively against the project proposal.”). The discussion of the alleged need for the Project, *see* 2012 Letter at 8–11, cannot act as a substitute for analysis of the no action alternative. *See Crossroads Ventures*, 2006 WL 3873403, at *34.

Moreover, even if the February 2012 Letter contained a more robust assessment of the no action alternative, confining a mandatory component of an EIS to a letter does not satisfy SEQRA’s requirements for public participation. For public review “to be meaningful, such an assessment must be based on an awareness of all reasonable options other than the proposed action.” *Webster*, 59 N.Y.2d at 228. The February 2012 Letter was not written until well after the close of the public comment period and was included in the record of this proceeding at the end of 2014. Members of the public should not be compelled to file requests for records under the Freedom of Information Law—or to wait for an issues conference—to obtain an assessment that should have been included in a draft EIS. *See id.* The DSEIS therefore is legally deficient for failure to include analysis of the no action alternative.

2. The DSEIS Is Legally Deficient for Failure to Analyze the Project’s Potentially Significant Cumulative Impacts.

When projects are related or “are proposed, or can be foreseen as likely, to take place simultaneously or sequentially in a way that the combined impacts may be significant,” the cumulative impacts of the projects must be analyzed in the EIS.⁵ *See Save the Pine Bush v. City of Albany*, 70 N.Y.2d 193, 206 (1987) (“We considered those projects related, thus requiring analysis of cumulative impact.”) (citing *Chinese Staff & Workers Assn. v. City of New York*, 68 N.Y.2d 359, 369 (1986)). It is clear that the Project and the neighboring Arlington facility are

⁵ SEQR Handbook at 83.

related. These two facilities are located on adjacent properties owned by the same parent company, the facility operators are subsidiaries of the same parent company, and the salt caverns proposed for natural gas and LPG storage are in close proximity to each other. Indeed, the Project originally included the very same salt caverns that the Federal Energy Regulatory Commission (“FERC” or the “Commission”) approved last year for Arlington’s use in expanding gas storage capacity from 1.5 to 2 billion cubic feet.⁶ Given the hazardous nature of the products to be stored, the two projects pose a potential combined safety risk to the community that has not been assessed. Moreover, Arlington has not begun construction of the expansion, raising the possibility of overlapping construction schedules and cumulative noise, traffic, and other potential impacts.⁷

Nevertheless, neither the DSEIS nor any other material in the record contains an analysis of the potentially significant cumulative impacts of these two facilities. Once again, the Applicant attempts to excuse its failure to evaluate the true environmental impacts of the Project by arguing that cumulative impacts were not part of the final scoping outline. Here, too, the failure to include an item in the scoping outline does not excuse a failure to comply with SEQRA.

The Department invoked FERC’s assessment of the Arlington expansion under the National Environmental Policy Act as an excuse for omitting cumulative impact analysis under SEQRA. *See* Tr. 555. The Commission considered only a narrow range of potential cumulative impacts, however, and it did not have the benefit of the record available to DEC. In particular,

⁶ Compare Reservoir Suitability Report at 1 (Protected Materials) (defining FLLPG Gallery 2 as wells 30, 31, and 45), with *Arlington Storage Company, LLC*, No. CP13-83-000, 147 FERC ¶ 61,120 (“Certificate Order”) ¶ 7 (May 15, 2014), http://elibrary.ferc.gov/idmws/file_list.asp?document_id=14216327 (noting that Arlington Gallery 2 includes wells 30, 31, and 45).

⁷ As is explained in Section II(D) below, the DSEIS fails to analyze noise impacts from the Project construction, much less cumulative noise impacts from overlapping construction schedules.

FERC did not have all of the confidential documents pertaining to cavern integrity that have been released to the Department, including documents pertaining to the particular caverns being used to store LPG. The Commission also assumed that there would not be any overlapping construction schedules. *See* Certificate Order ¶ 66 (“The EA’s cumulative air quality analysis concludes that the construction schedule for the Gallery 2 Project and the Finger Lakes Project is not expected to overlap . . .”). DEC thus should not be permitted to claim for the first time at an issues conference that it is relying on FERC’s analysis of the cumulative impacts of the Project and the Arlington facility. *See* 6 NYCRR 617.9(b)(7) (“A draft or final EIS may incorporate by reference all or portions of other documents The referenced documents must be made available for inspection by the public within the time period for public comment in the same places where the agency makes available copies of the EIS. When an EIS incorporates by reference, the referenced document must be briefly described, its applicable findings summarized, and the date of its preparation provided.”).

DEC’s counsel also contended that cumulative impacts had been addressed because, in March 2011, the Department asked the Applicant to revise its Reservoir Suitability Report to consider the Arlington natural gas facility. *See* Tr. 552–55. This narrow focus on cavern integrity does not address broader questions of cumulative safety impacts of the two facilities or any of the potential cumulative surface impacts. DEC’s alleged analysis of cumulative operational (but not construction) noise impacts, *see id.* at 556–58, 561, is not in the record and has not been the subject of public comment. The DSEIS therefore is deficient for failure to analyze potentially significant cumulative impacts of the Project and the Arlington facility.

3. DEC Violated SEQRA by Refusing to Analyze the Project's Potentially Significant Adverse Impacts on Community Character.

The term “community character” never appears in the DSEIS prepared for the Project, and there is no analysis in the document of impacts on the character of the Seneca Lake community or the Finger Lakes wine country.⁸ DEC excluded the issue from the final scope of the SEIS, even though “there were some comments made about community character” and specifically about “the Finger Lakes Wine Trail” during the scoping process. Tr. 74, 75. The unexplained and inexplicable failure of the DSEIS to address the Project’s potentially significant impairment of community character violates the requirements of SEQRA.⁹

Under SEQRA, an EIS must be prepared for any agency action that “may have a significant effect on the environment.” ECL § 8-0109(2). The Legislature clearly defined the term “environment” to mean “the physical conditions which will be affected by a proposed action, including land, air, water, minerals, flora, fauna, noise, objects of historic or aesthetic significance, existing patterns of population concentration, distribution or growth, and existing *community or neighborhood character.*” *Id.* § 8-0105(6) (emphasis added). The “impairment . . . of existing community or neighborhood character” is an indicator of a significant adverse impact on the environment.” 6 NYCRR § 617.7(c)(1)(v). Given the available evidence, the DEC should have identified community character as a “relevant area[] of environmental concern,” and the DSEIS should have included a “hard look” at community

⁸ The Applicant’s contention that sufficient facts appear in the DSEIS to perform a community character analysis (although one has yet to be performed), is addressed below in the discussion of adjudicable issues, *see* Section II(E), if this issue cannot be resolved as a matter of law.

⁹ The Applicant admitted that the potential impact on the character of the Finger Lakes wine country was raised as an issue during scoping but omitted from the final scope. *See* Tr. 57–58. During the issues conference, the ALJ twice asked DEC for an explanation of the omission. *See id.* at 74 (“Well, can I ask you how was it that impacts on the Finger Lakes wine country were not . . . deemed to be something that needed to be included in the EIS?”); 75–76 (“But you can’t tell me why it is that it was decided not to include the wine industry in the environmental setting of this EIS?”). Mr. Weintraub, attorney for DEC, replied: “I can’t recall that.” *Id.* at 76.

character impacts. *Chinese Staff*, 68 N.Y.2d at 363–64 (stating the legal standard) (internal quotation marks omitted).

“Community character relates not only to the built and natural environments of a community, but also to how people function within, and *perceive*, that community.”¹⁰ SEQR Handbook at 87 (emphasis added); *see* DEC, Revised Draft Supplemental Environmental Impact Statement for the Oil, Gas and Solution Mining Regulatory Program (“RDSGEIS”), 2-173 (2011), <http://www.dec.ny.gov/energy/75370.html> (“A sense of place . . . is central to community character or identity.”). In excluding community character from the scope of the DSEIS, DEC ignored comments revealing how people perceive the Seneca Lake community and why industrialization is a serious threat to their sense of place. As one former resident of Philadelphia and current Seneca Lake community member stated during the scoping process:

This behemoth project is a huge mistake for the natural beauty that *makes* this the place it is—the place that many many thousands of city-dwellers and other visitors flock to annually to enjoy and take in the view and fresh air, and the place that folks like us, so taken by it, moved to. . . . Please consider this community in these proceedings

2011-02-08, Draft Scoping Comments, Approximately 91 Letters/E-mails at 25 (asterisks in original; punctuation corrected). A resident of Hector, NY, also expressed concern about impacts on the regional character:

We urge you to think very carefully about the grave damage that could devastate this beautiful Finger Lakes region if this project is approved without proper scrutiny and guarantees by scientific and knowledgeable experts before you go ahead with these plans! The potential damage that is apt to be done to the Watkins Glen area, and the entire Finger Lakes Region, cannot be undone.

¹⁰ Contrary to the Applicant’s claim, *see* FLLPG Response at 8–9, acknowledging how a community perceives its character is not the same as treating psychological impacts as environmental impacts, as the petitioners sought to do in *Matter of Oneida-Herkimer Solid Waste Mgt. Auth.*, Rulings of the ALJ on Party Status and Issues, 2001 WL 112141, *47 (DEC, Jan. 30, 2001) (declining to consider “stress on individuals” or “feelings of powerlessness and inequity”).

Id. at 88. Numerous others echoed the request for careful analysis of the potentially severe negative effects that the industrial facility would have on the small-town character and bucolic landscape of Seneca Lake, where residents have purchased homes, raised families, and built businesses in reliance on the scenic beauty, tranquil environment, and recreational amenities of the Finger Lakes wine country. *See id.* at 11, 35, 46, 48, 51, 53-55, 57-60, 63, 65, 69, 71, 72, 74, 80, 84-86, 89-91, 106, 109, 116, 121, 129-31, 133, 135, 146, 151-54.

In the face of these comments, the refusal to identify community character as a relevant area of environmental concern to be considered in the DSEIS is a violation of SEQRA. *See Chinese Staff*, 68 N.Y.2d at 363; *H.O.M.E.S. v. New York State Urban Dev. Corp.*, 69 A.D.2d 222, 231 (4th Dep’t 1979) (chiding the agency for having “put out of sight and mind a clear environmental problem”).¹¹ That community character qualifies as such an area has been affirmed unequivocally by the New York Court of Appeals:

It is clear from the express terms of the statute and the regulations that environment is broadly defined . . . and expressly includes . . . such considerations as “existing patterns of population concentration, distribution, or growth, and existing community or neighborhood character”. Thus, the impact that a project may have on . . . existing community character, with or without a separate impact on the physical environment, is a relevant concern in an environmental analysis since the statute includes these concerns as elements of the environment. That these factors might generally be regarded as social or economic is irrelevant in view of this explicit definition.

Chinese Staff, 68 N.Y.2d at 365-66 (citations and footnotes omitted); *see Wal-Mart Stores v. Planning Bd. of Town of N. Elba*, 238 A.D.2d 93, 98 (3d Dep’t 1998) (“[W]hile the decision refers to the economic effect the proposed store would be expected to have . . . , it does so in the

¹¹ Contrary to the Applicant’s suggestion, *see* Tr. 65, the petitioners in this proceeding were not required to raise the community character issue by means of the post-scoping procedure set forth in the SEQRA regulations. *See* 6 NYCRR § 617.8(g). The issue was raised repeatedly “before the issuance of a final written scope,” as the regulations provide. *Id.* (emphasis added).

context of assessing . . . the change it would work upon the over-all character of the community, . . . an entirely proper avenue of inquiry . . .”). Because it is undisputed that community character was not identified as an issue for consideration in the DSEIS, and because DEC has offered no rational basis for the omission, the ALJ should find that the document is deficient as a matter of law. *See* 6 NYCRR § 624.4(b)(5)(iii) (authorizing the ALJ to “rule on the merits of any legal issue where ruling does not depend on the resolution of disputed issues of fact”).

The Applicant contends that *Chinese Staff* is not controlling precedent because the case considered whether a negative declaration could be upheld, when community character was not addressed, and not whether community character is an adjudicable issue. *See* Tr. 48–49.

Chinese Staff held, however, that “the failure . . . to consider whether the introduction of luxury housing into the Chinatown community would . . . alter the character of the community,” 68 N.Y.2d at 363, “[did] not comply with the statutory mandate” of SEQRA, *id.* at 368. As the ALJ noted:

Chinese Staff, at least as I understand it . . . would require that the Department to look at impacts[.] [In] *Chinese Staff* the question was a new use coming into a neighborhood and did the agency have to look at that. I think they have the similar argument here. They are saying this is an industrial use coming into what is basically an agricultural environment. Not only an agricultural one, but one that has been developed as a unique Finger Lakes wine country type of character. . . . So don’t we need to consider that, the potential impacts of this on that character of the community?

Tr. 54–55. The answer to that question plainly is “yes.” Under *Chinese Staff*, the DSEIS is inadequate as a matter of law for failure even to consider community character impacts. DEC therefore should be directed to prepare a revised DSEIS for public comment.¹²

C. The Substantial Omissions in the DSEIS Require Revision or Supplementation with Opportunity for Public Comment.

The DSEIS’s failure to analyze alternatives, cumulative impacts, and effects on community character cannot be corrected merely by adding analysis in the final SEIS. *See Webster*, 59 N.Y.2d at 228 (“[T]he omission of a required item from a draft EIS cannot be cured simply by including the item in the final EIS.”). The ALJ therefore should order that the DSEIS be revised to provide full evaluation of the required components. In the alternative, at a minimum, DEC should be ordered to correct the omissions by providing supplements to the DSEIS prior to the adjudicatory hearing. *See e.g., Crossroads Ventures*, 2006 WL3873403, at *34–*35 (ordering the preparation of a supplement prior to the adjudicatory hearing to correct defects in the draft EIS.)

In addition, because the analysis of these critical aspects of the Project was excluded from the public participation process mandated by SEQRA, any revised draft or supplement of the DSEIS should be made available for public review and comment. *See Webster*, 59 N.Y.2d at 228. To release required environmental analyses to only the few petitioners with the resources to seek party status in this proceeding would thwart the fundamental purpose of SEQRA.¹³ In

¹² DEC could—and should—take the initiative and voluntarily revise the DSEIS to add the requisite analysis and submit it for public comment. DEC did exactly that during the environmental review of the Draft Supplemental Generic Environmental Impact Statement on the Oil, Gas and Solution Mining Regulatory Program (“DSGEIS”), issued in 2009. After numerous comments were submitted about deficiencies in the DSGEIS, DEC voluntarily revised the document and released it for public comment in 2011. The RDSGEIS added a more robust community character analysis, drawing on the cultural landscape methodology employed by GFS’s community character expert, Dr. Harvey K. Flad. For more about the use of that methodology, see below Section II(E).

¹³ In a number of instances discussed below, DEC claimed to have analyzed potential adverse impacts of and alternatives to the Project without disclosing its analysis in the DSEIS or other documents in the record. *See* Tr. 483–86, 556–57. Without release for public review, those analyses should not be considered in this proceeding.

Jackson v. New York State Development Company, the New York Court of Appeals specifically held that a primary purpose of a draft EIS is “to inform the *public* and other public agencies as early as possible about proposed actions that may significantly affect the quality of the environment, and to solicit comments which will assist the agency in the decision making process in determining the environmental consequences of the proposed action . . . —a purpose arguably best served by broad disclosure.” 67 N.Y.2d 400, 422 (1986) (emphasis added). Formal publication of the missing components of the DSEIS therefore is required to satisfy the basic purpose of SEQRA. Given the length of time since the closure of the public comment period on the inadequate first version of the DSEIS, the Department also should be required to publish a notice in the Environmental Notice Bulletin that makes it clear to the public that DEC will be accepting and responding to comments on the new material.

II. GFS’s Offer of Proof Demonstrates That There Are Significant and Substantial Factual Issues that Require an Adjudicatory Hearing.

An issue is adjudicable if “it is proposed by a potential party and is both substantive and significant.” 6 NYCRR § 624.4(c)(1)(iii). An issue is substantive “if there is sufficient doubt about the applicant’s ability to meet statutory or regulatory criteria applicable to the project, such that a reasonable person would require further inquiry.” *Id.* § 624.4(c)(2). An issue is significant if it “has the potential to result in the denial of a permit, a major modification to the proposed project or the imposition of significant permit conditions in addition to those proposed in the draft permit.” *Id.* § 624.4(c). GFS is a potential party, and the five issues that it has proposed for adjudication are both substantive and significant.

While the burden of proof to demonstrate that an issue is substantive and significant rests with the party petitioning for full party status, the offer of proof “need not necessarily be so convincing as to prevail on the merits.” *Matter of AKZO Nobel Salt, Inc.*, Interim Decision of

the Commissioner, 1996 WL 172632, *2 (DEC, Jan. 31, 1996); *see also Matter of Supt. of Fish Culture*, Interim Decision, 1999 WL 1008317, *5 (DEC, Aug. 19, 1999). Department decisions firmly establish that:

The degree of proof necessary to meet an intervenor's burden may vary depending on the nature of the matter under consideration, and whether the applicant attempts to rebut the intervenor's offer of proof. However, after the question has been joined, an adjudicable issue exists only where there are sufficient doubts about the applicant's ability to meet all statutory and regulatory criteria such that reasonable minds would inquire further. Requiring a greater showing would effect an unfair burden on intervening parties; requiring a lesser showing would over-burden the adjudicatory system with issues of dubious merit.

AKZO Nobel Salt, 1996 WL 172632, at *2 (citing *Matter of Hydra-Co. Generations*, 1988 WL 1095749). Moreover, a petitioner's offer of proof "can take the form of proposed testimony, usually that of an expert, or the identification of some defect or omission in the application. Where the proposed testimony is competent and runs counter to the Applicant'[s] assertions an issue is raised.'" *Matter of Metro Recycling & Crushing, Inc.*, Decision of the Acting Commissioner, 2005 WL 958139,*2 (DEC, Apr. 21, 2005) (quoting *Matter of Halfmoon Water Improvement Area No. 1*, Decision of Commissioner, 1982 WL 25856 (DEC, Apr. 2, 1982)). An offer of proof by a petitioner may be rebutted, but only by reference to "the application, its supporting documents, the analysis of Department staff, and responses provided by [the] applicant." *Metro Recycling*, 2005 WL 958139, at *3 (citing to *Matter of Bonded Concrete, Inc.*, Interim Decision of the Commissioner, 1990 WL 154836 (DEC, Jun. 4, 1990)).

GFS has proffered scientifically grounded testimony by qualified experts that raises sufficient doubts about the Applicant's ability to meet the requirements under ECL Title 13 and SEQRA that reasonable minds would inquire further. That evidence also provides the basis for denial of the permit, major modification of the Project, or addition of significant permit conditions. The Applicant has not rebutted GFS's evidence by reference to materials in the

record. GFS therefore has presented substantive and significant issues that require resolution through an adjudicatory hearing.

A. The Adequacy of the Cavern Integrity Analysis and the Adaptability of the Project Galleries for LPG Storage Are Issues Requiring Adjudication.

In support of its request for an adjudicatory hearing, GFS has proffered the expert report and testimony of Dr. H.C. Clark. *See* H.C. Clark, *Cavern Integrity Report* (“Clark Report,” attached as Exhibit 1 to the GFS Petition). Dr. Clark is a former professor of geology and geophysics from Rice University, with a Ph.D. in geophysics from Stanford University.¹⁴ He has published extensively in the field since 1964, and he has served as a geological and geophysical consultant on a variety of projects involving storage of hazardous materials in bedded salt or salt domes. Currently, he is providing expert assistance with the ongoing investigation of the catastrophic salt cavern collapse at Bayou Corne, Louisiana. *See id.* at 36 & Ex. F. He is fully familiar with the methods used by the Applicant in its effort to establish the suitability of FLLPG Galleries 1 and 2 for LPG storage, including [REDACTED] [REDACTED] Tr. 239 (spelling and punctuation errors corrected). He also has experience with other techniques that should be used to monitor cavern integrity in the Galleries, such as borehole geophone recording of microseismic activity and real-time pressure, salinity, and temperature monitoring. *See* Clark Report at 33.

Dr. Clark has conducted a careful examination of the materials released or produced for this proceeding and has reviewed the relevant geologic literature and other publicly available

¹⁴ Dr. Clark’s curriculum vita is attached as Exhibit F to his report.

reports about the salt caverns in the Watkins Glen brine field.¹⁵ That investigation revealed that there is much that we do not know about the Project galleries. What we do know is that

[REDACTED]

[REDACTED]

[REDACTED]. Gallery 2 has a history of collapse, has been solutioned all the way to the Camillus Formation, and has a rock roof that recent sonar measurements show to be sagging.

The information that is available thus raises the following adjudicable issues regarding the long-term integrity of FLLPG Galleries 1 and 2:

- To what extent should geologic features of the Watkins Glen brine field, such as the Jacoby-Dellwig fault (also known as the Seneca Lake fault), and existing conditions in the FLLPG Galleries and nearby caverns be depicted on maps and cross-sections for the Project?
- What is the shape and volume of the rubble at the base of FLLPG's solution-mined salt caverns, are those features correctly depicted on cross-sections, and what are the risks of failing to do so?
- How does the Applicant's inability to develop accurate measurements [REDACTED] affect predictions of long-term cavern integrity?
- Do the sonars show a roof sag in FLLPG Gallery 2 and, if so, does the failure fully to characterize the Camillus Formation above it indicate that the cavern is not adaptable for storage purposes?
- What additional materials should be submitted and which new studies should be performed before a decision is made about whether to grant a permit for the Project?

¹⁵ The Applicant cannot complain that Dr. Clark's analysis lacks a scientific foundation. Like the reports submitted by the Applicant in response to the GFS Petition, Dr. Clark's report is "supported and directly refer[s] to the application documents." Tr. 239 (referring to reports submitted by Dr. Samuel W. Gowan and Mr. John A. Istvan). Because the application documents, especially maps and cross-sections depicting sonar surveys of FLLPG Galleries 1 and 2, contain errors, omissions, and unexplained anomalies, the adaptability of those salt caverns for LPG storage is in grave doubt.

- What monitoring of the caverns and surrounding area should be conducted to ensure cavern integrity over time and early detection of problems, if DEC decides to grant FLLPG's application?

Those contested questions raise doubts about the Applicant's ability to satisfy the statutory standard for underground storage of LPG, *see* ECL § 23-1301(1), and the adequacy of the DSEIS's cavern integrity analysis, *see* 6 NYCRR § 617.9(b)(1), such that a reasonable person would demand additional inquiry. *See id* § 624.4(c)(2). Those issues also represent potential grounds for denial of the permit or for imposition of significant additional permit conditions. *See id.* § 624.4(c)(3). Consequently, as is explained below, the adequacy of the Applicant's studies and documentation, and the long-term integrity of the FLLPG galleries, are issues that should be adjudicated.

1. Without Complete and Accurate Gallery Maps and Cross-Sections, Neither the Applicant Nor DEC Will Be Able to Respond Promptly to Unanticipated Cavern Integrity Problems.

Dr. Clark has raised critical questions about the accuracy and completeness of the Applicant's maps and cross-sections. As he explained:

A professional geologist assessing the integrity of solution-mined salt caverns proposed for hydrocarbon storage will begin with the applicant's maps and cross-sections, which are supposed to depict the geology of the area, including stratigraphy and faults, as well as the extent, contours, and developmental history of the caverns. Comprehensive and accurate maps and cross-sections serve three crucial functions: (1) they allow analysts to flag issues that may become serious problems; (2) they help to identify where additional study or monitoring is needed; and (3) they expedite response when something goes wrong, by enabling analysts to understand quickly what happened and what corrective action is needed.

Clark Report at 2. FLLPG's maps and cross-sections cannot serve those purposes, however, because they misrepresent the current configuration of the caverns and omit key features of the surrounding geology. If the Applicant will not correct the documents, then a hearing will be the

utility of the documents is compromised, however, if the information they depict is inaccurate or incomplete.

The Department and the Applicant nevertheless contest the need to submit revised maps and cross-sections that correct the errors and omissions identified by Dr. Clark. They evidently intend to proceed with maps and cross-sections that are demonstrably and admittedly inaccurate, that grossly understate the maximum storage capacity of the caverns, and that contain absolutely no information about faults, fractures, folds, or other aspects of the surrounding geology. Because complete and accurate maps and cross-sections provide assurance that the adaptability of the proposed storage reservoir has been adequately investigated and that analysts will have the tools required to address potential problems over the Project's intended 50-year life, a reasonable person would ask for revised graphics. Submission of that documentation should be added as a permit condition, and failure to provide it should be grounds for denying the permit. If the Applicant continues to deny that revisions are needed, the industry standard for maps and cross-sections should be a subject for adjudication.

2. The Inconsistent and Inaccurate Depiction of Rubble Piles in Cross-Sections of the FLLPG Galleries Indicates That DEC Does Not Have Reliable Information about Cavern Dimensions and Integrity Risks.

Dr. Clark presented evidence that the Applicant failed accurately to depict the layer of rubble at the bottom of both FLLPG Galleries. For example, cross-section AA' shows rubble in an entirely separate cavern floating beneath Gallery 2, but, as Dr. Clark explained, the two caverns in fact are connected, with the rubble forming the base of the gallery. *See* Clark Report at 14, 17, & Ex. B. [REDACTED]

[REDACTED]

cavern bottoms, so the “floor” of Gallery 1 also is a rubble pile, filling the originally fractured connection between the four caverns. *See id.* at 21–24 & Ex. C [REDACTED]

[REDACTED]¹⁸

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] in 1973, International Salt geologist Charles Jacoby documented a sizable “rubble pile” in the cavern developed between Wells 33 and 43.²⁰ *See* Clark Report at 5,

Fig. 1.²¹ [REDACTED]

[REDACTED]

[REDACTED] Maps and cross sections that contain known and admitted errors should be corrected immediately, so analysts over the projected 50-year life of the Project will have a correct baseline from which to work in the event of a problem.

¹⁸ [REDACTED]

¹⁹ The combination of the caverns by this means demonstrates that salt does not invariably heal fractures.

²⁰ Jacoby’s cross-section also contains numerical data about fault cuts, formation tops, and other geological features that should appear on the Applicant’s cross-section.

²¹ [REDACTED]

The failure accurately to depict the rock piles that are part of the FLLPG galleries reflects incomplete characterization of both the caverns and the rubble, which increases the risk of delayed leakage detection. First, the open spaces in the rubble piles offer storage areas for brine, so the absence of reliable information on the extent of the rubble means that the maximum storage capacity of the Galleries is unknown. *See* 2014-11-10 DEC Staff Draft Permit

Conditions (“Draft Permit”) ¶ 1(d) & Att. 2 n.3; [REDACTED]

²² [REDACTED]

²³ [REDACTED]

Second, the rubble abuts the walls of the caverns, where there are fractures in the rock layers. Even if adjacent salt has healed those fractures for now, once unsaturated brine is flushed repeatedly through that rubble, the salt can dissolve and initiate a leakage process. In the case of Gallery 1, the rubble pile crosses a thrust fault documented by Jacoby, Clark Report at 5 & Fig. [REDACTED]—and “faults are planes of weakness that could serve as fluid pathways or influence future cavern deformation.” *Id.* at 22. The misfired fracturing that connected Well 33 to Well 34 proves that there are other zones of weakness in the area. That connection, [REDACTED] also could be compromised by unsaturated brine, [REDACTED] [REDACTED] Without an accurate depiction of the extent of the rubble (as well as documented planes of weakness), analysts will not be easily alerted to potential sources of leaks, if a problem does occur.

In sum, we do not have an accurate baseline against which to measure change in the caverns. The tests conducted so far do not provide the requisite data, because sonar cannot penetrate through rock piles. [REDACTED]

[REDACTED]. The sufficiency of the cavern integrity analysis thus remains in doubt and calls for additional inquiry. The Applicant’s refusal to conduct additional study is grounds for denial of the storage permit.

24 [REDACTED]

3.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] When added to the concerns discussed above about the caverns of Gallery 1, these issues call for additional inquiry before permit issue and more extensive monitoring afterwards, and in the absence of either the permit should be denied.

4. The Unexplained Roof Sag in Gallery 2 Is Evidence of Already Compromised Cavern Integrity.

Cross-section AA' depicts sonar surveys of FLLPG Gallery 2, which consists of Well and Cavern 58. The three most recent sonars of the cavern—from 2009, 2011, and 2013—reveal that the roof of Gallery 2 is dropping in height, sagging in the middle, and (like the hanging ledge in Gallery 1) threatening to collapse. *See* Clark Report at 20 & Fig. 8 (contrasting flat-roofed cavern in 2011 with sagging roof in 2013). The threatened collapse in Gallery 2 may be [REDACTED] imminent [REDACTED] because the roof of Cavern 58 already has reached the Camillus Formation, [REDACTED] so once the newly sagging roof falls, there will be no overlying salt to seal off fractures or other fluid pathways in the that formation.²⁶ The visible sag thus represents yet another adjudicable cavern integrity issue.

²⁶ [REDACTED]

Dr. Clark's discovery of the sagging roof depicted on the Applicant's own sonars [REDACTED]

[REDACTED]

[REDACTED] (1) The sonars show that the cavern roof began to drop between 2009 and 2011, [REDACTED].²⁷ The drop thus coincided with an approximate tripling in the diameter of the roof, an undesirable expansion of unsupported rock.²⁸ (2) Cross-section AA' carefully marks 2155' and 2162' in depth, a difference of seven feet. [REDACTED]

[REDACTED]

[REDACTED] (3) The edges of the roof are at the same level in 2011 and 2013, but the center is visibly sagging in 2013, [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

²⁷ [REDACTED] here is clearly visible space between top of the 2009 sonar's magenta outline and the top of the 2011 sonar's green outline on cross-section AA'. See 2014-10-23, BSK to DEC, cover letter and maps (redacted) (including unredacted cross-section AA').

²⁸ [REDACTED]

[REDACTED] The progression from flat roof to sagging roof is, of course, precisely what worried Dr. Clark. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Moreover, if the roof falls, pathways through the Camillus Formation will be exposed.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] In view of the known and unknown risks presented by roof collapse in Gallery 2, and the failure to explain the sag shown in the 2013 sonar of Cavern 58, the sufficiency of the cavern integrity analysis remains in doubt and should be adjudicated.

5. Additional Study Is Needed before DEC Decides Whether to Grant an Underground Storage Permit for the Project.

[REDACTED]

[REDACTED]

[REDACTED]. Of course, everything was going fine at Bayou Corne, Retsof, Hutchinson, and Mt. Belvieu—until the caverns collapsed or developed leaks. *See* Clark Report at 1–2, 36. As Dr. Clark can testify from his current experience at Bayou Corne, once problems develop, everyone wishes that they had better documentation of the cavern conditions over time.

²⁹ [REDACTED]

Moreover, the salt caverns in the Project area have presented sufficient risks to deter their reuse for other storage projects. Recently, the National Energy Technology Laboratory (“NETL”) explained why those caverns were not suitable for a proposed compressed air energy storage (“CAES”) facility:

Preliminary reviews by the project team also indicated that most if not all of the existing salt caverns at the site had been mined in a fashion in which the salt on the roofs of the caverns had largely been mined out leaving a bare rock face on the ceiling. The absence of a substantial layer of salt on the roofs of these caverns, combined with the potential for cavern to cavern leakage made the potential re-use of existing caverns for the storage of high pressure air problematic.

NETL, *Seneca Compressed Air Energy Storage (CAES) Project 4* (Sept. 2012) (“NETL Report”), <http://www.smartgrid.gov/sites/default/files/doc/files/NETL-Final-Report-9-6-12.pdf>.

The map provided by NETL indicates that the rejected cavern was Cavern 58 [REDACTED]

[REDACTED] See NETL Report at 12; [REDACTED]

[REDACTED]³⁰.

Given this recent concern about the integrity of the salt caverns, and the potentially catastrophic consequences for the Seneca Lake community if there is a problem with LPG storage, additional characterization of the galleries is warranted. Specifically, seismic surveys (modified refraction, reflection, and vertical seismic profiling) should be performed “to fill data gaps . . . , such as the shape and volume of rubble-filled portions of all caverns; [REDACTED] [REDACTED] the relationship between Cavern 29 and the Jacoby-Dellwig Fault, and the pathway from Cavern 29 to the ground surface.” Clark Report at 32. The significance of such information already has been confirmed by the Federal

³⁰ The ready availability of an alternative site for the CAES facility on Inergy-owned property “approximately one mile west” of the Project site, NETL Report at 11, suggests another alternative that should have been considered in the DSEIS.

Energy Regulatory Commission (“FERC” or the “Commission”), which has required that Arlington “[d]etermine and file with the Commission the volume of rubble in Gallery 2, including the methodology of determining such volume.” *See* Certificate Order, App. A, Engineering Condition 3(f).

The Applicant also should do additional study of the Camillus Formation above both Galleries before a permit decision is made. Given the visible risk that the roof of Cavern 58 [REDACTED] will fall in the foreseeable future, the current testing regimen does not represent [REDACTED] and more analysis should be done. The Applicant’s refusal to conduct any further study thus raises an adjudicable issue.

6. If the Application Is Granted, DEC Should Strengthen and Add Permit Conditions to Ensure Swift Detection and Analysis of Emerging Problems.

Dr. Clark has recommended that the following conditions be added to the Draft Permit, if FLLPG’s application is granted:

- Install borehole seismic sensors similar to those being used at Bayou Corne to track and study events related to the failed cavern there, to measure other caverns, the rock chimney, and gas and fluid movement in the subsurface. These sensors could be installed in cavern wells considered for plugging or wells developed specifically for monitoring. Install recording strain gauges (sensitive tape or material that can be locked against a cavern wall to measure the tiniest flexure or strain) in these or additional deep boreholes.
- Measure pressures, salinity (or chloride concentration), temperature, and other easily measured variables at injection and withdrawal and monitoring wells.
- Install gas sensors in the aquifer(s) above the caverns.
- Install active sonar and other means to monitor cavern changes (like roof, wall, and floor creep). Install means to monitor rock and salt fall.

- Expand the leveling network to include the caverns of the comprehensive map. Add dedicated subsidence measurement monuments designed to minimize effects such as weather. Add horizontal and tilt measurements over FLLPG Gallery 1. Add active, continuous level monitoring for extended periods—like the subsidence monitoring done in the Houston subsidence province.³¹

Clark Report at 33. The recommended conditions are monitoring requirements appropriate for Galleries 1 and 2, for which there are documented threats to long-term integrity. The additional monitoring involves real-time, continuous measurement, rather than testing over periods as long as 10 years. Several of the wells that are proposed for plugging could be converted to monitoring wells, instead, with the state-of-the-art devices that Dr. Clack recommends. Without the addition of these monitoring requirements as permit conditions, DEC cannot ensure that emerging cavern integrity problems will be timely identified and therefore should not issue the permit.

_____ the conditions currently included in the permit are insufficient to provide prompt notice of changes in the caverns. First, unlike FERC, which is requiring sonar surveys of the Arlington caverns every five years, *see* Certificate Order, Engineering Condition 5, the Department proposes to allow 10 years between sonar surveys of the FLLPG Galleries, *see* Draft Permit ¶¶ 1(i)(ii), 2. DEC is asking for half the number of sonars, even though—unlike the Arlington caverns—the FLLPG Galleries will be exposed to unsaturated brine that will dissolve salt walls and roofs. _____

³¹ The Draft Permit requires surveys at most every two years, *see* Draft Permit ¶ 4, which would be insufficient even if the subsidence monitoring program described in the application did more than reflect changing weather conditions.

Second, although the increase in storage capacity is limited to two percent per year, the Department has not specified any acceptable method for measuring capacity changes. *See* Draft Permit ¶ 1(c)-(d). Sonar surveys cannot reliably provide the baseline, as the Draft Permit provides, *see id.* ¶ 1(d), because they are ineffective in measuring the void space in rubble piles that is included under DEC’s definition of storage capacity, *see id.* Sonars also will be ineffective in measuring a two percent capacity change, given the admitted margin of error of 5–7 percent for the Applicant’s surveys.³² Without further specification of a reliable measurement method, there is no enforceable means of ensuring compliance with the permit condition. Moreover, the continuous monitoring recommended by Dr. Clark will detect cavern changes far more promptly than an unspecified test that takes place only once a year.

Neither the Applicant nor the Department has explained why conditions imposed on the Arlington gas storage expansion—including filing results of “a new sonar survey . . . , including plan view and cross sections, and 3-D;” determination of “the volume of rubble . . . , including the methodology of determining such volume;” and sonar surveys every five years, Certificate Order, Engineering Conditions 1(e)–(f), 5—should not be included in the Draft Permit or why it is better to wait until a cavern integrity problem develops at the Project site before additional monitoring is required. Any reasonable person would require further inquiry into available techniques that will provide swifter detection of potential roof collapse or reservoir leaks, and thus ensure long-term compliance with statutory requirements for LPG storage, especially considering the location of the Project adjacent to a drinking water supply for 100,000 people and in the heart of Finger Lakes wine country. Because failure to adopt appropriate monitoring

³² DEC does not explain how it will enforce compliance with a permit condition limiting cavern span to the dimensions on the storage map, *see* Draft Permit § 1(e), when the sonars have a margin of error of 5-7 percent.

requirements is grounds for denying the permit, the dispute regarding appropriate conditions for the Project thus presents another adjudicable cavern integrity issue.

B. GFS Established That There Is a Substantive and Significant Issue Regarding the Public Safety Risks of the Project.

The analysis of the Project's potential impacts on public safety, as developed in the DSEIS and application materials, drastically underestimates the risk that Project construction and operation would pose to the surrounding community. Having failed to analyze the full breadth of the risks associated with the Project, DEC cannot have taken a hard look at the Project's potential adverse impacts. The Department also cannot reasonably conclude based on the current record that, considering social, economic and other essential factors, the Project is the alternative that avoids or minimizes adverse environmental impacts to the maximum extent practicable. *See* 6 NYCRR § 617.11(d)(5). In addition, failure to properly analyze the public safety risks associated with storing LPG in underground salt caverns prevents DEC from reasonably concluding that the proposed storage reservoir is suitable for LPG storage under the ECL. *See* ECL § 23-1301(1).

GFS has provided sound factual and scientific evidence demonstrating that the Applicant severely underestimates the Project's risk to public safety. With its Petition, GFS submitted a report by Dr. Rob Mackenzie analyzing the historic incidence of serious accidents involving the storage of hydrocarbons in salt caverns. *See* Rob Mackenzie, *Independent High-Level Quantitative Risk Analysis Schuylar County Liquid Petroleum Gas Storage Proposal* (attached as Exhibit 2 to the GFS Petition) ("Mackenzie Report"). Dr. Mackenzie's analysis indicates that the aggregate community risk levels are at least 100 times higher than widely accepted levels, even using the Applicant's own flawed methods and data. The methodology, data, scope, and

findings of Dr. Mackenzie’s report all have been confirmed in peer-reviewed, published literature on underground hydrocarbon storage.

As is discussed in greater detail below, the expert reports on public safety provided by the Applicant contain significant omissions and errors. Rather than address those deficiencies on the merits, the Applicant and DEC instead attacked Dr. Mackenzie’s qualifications, made unsupported arguments about the scope of federal preemption, and mischaracterized appropriate risk analysis methodology. None of those points survives scrutiny or rebuts the evidence proffered by GFS through Dr. Mackenzie. An adjudicatory hearing is required to address the substantive and significant issue raised by GFS about the extent of the Project’s public safety risks.

1. Dr. Mackenzie Is a Qualified Risk Analysis Expert.

At the issues conference stage, the qualifications of an expert witness may be the subject of consideration. *See Matter of Seneca Meadows, Inc.*, Interim Decision of the Commissioner, 2012 WL 6858125, *3 (DEC, Oct. 26, 2012). However, “all that is required is that the testifying expert possess the requisite skill, training, education, knowledge, and experience from which it can be assumed that the opinion rendered is reliable.” *Matter of Karuvath Enu v. Sobol*, 208 A.D.2d 1123, 1124 (3d Dep’t 1994). “It is acceptable to qualify witnesses based on experience and observation as well as by education.” *Matter of Hyland Facility Associates*, Decision of the Commissioner, 1993 WL 267919, *1 (DEC, June 21, 1993) (internal citations omitted) (finding that disallowing the testimony of witnesses with experience in fields related to the ones at issue “would be overly restrictive, particularly considering the interdisciplinary nature of the hearing issues”).

Dr. Mackenzie possesses ample training and experience in hazard identification, forms of risk and hazard analysis, quantitative risk assessments, and the use of risk matrices. He has more than two decades of experience as Vice President for Medical Affairs and ultimately Chief Executive Officer (“CEO”) of the Cayuga Medical Center, a hospital. *See* Mackenzie Report, Att. 1. In this role, his responsibilities included conducting risk analyses and prioritizing, managing, and mitigating risks. His interest and expertise in safety and risk information analysis, interpretation, and management have been recognized statewide, and his organization’s safety performance has been recognized nationally. He also served as Chair of the VHA-Empire State Healthcare CEO Safety Network Taskforce, a taskforce designed to teach CEOs about safety, risk, and the application of risk analysis techniques to the running of the CEOs’ facilities. Dr. Mackenzie has received additional training in conducting industrial operations under hazardous conditions while maintaining high safety levels from national experts and participated in evaluations of safety practices at high-reliability medical and industrial sites. *See id.* at 1, 2.

In his professional capacity, Dr. Mackenzie conducted quantitative and qualitative assessments of organizational, community, hospital, and industrial safety and risks. *See id.* at 1. To help prepare for events such as storms, epidemics, power failures, terrorist attacks, hazardous material releases, and incidents of civil unrest, he used a variety of risk assessment tools to integrate diverse community risk and impact data. He also supervised and worked closely with emergency response staff and risk managers. *See id.*

That Dr. Mackenzie does not hold a degree or have specific experience in petrochemical engineering does not affect his status as an expert in risk analysis.³³ When conducting risk analyses for the Cayuga Medical Center, Dr. Mackenzie did not need advanced degrees or specific experience in such fields as meteorology or the sociology of terrorism or crowd behavior. Rather, as a risk analysis practitioner, Dr. Mackenzie relied on experts in those specialized fields to provide the relevant data, opinions, and conclusions used as input for the risk analysis process. What Dr. Mackenzie did for his hospital is the same thing he did in assessing the risks of the Project: he assessed the community health and safety risks posed by potential hazards, based on his expertise in risk analysis and on data from experts in the relevant field.

Dr. Mackenzie’s professional training and on-the-job experience therefore are more than sufficient to qualify him as an expert in risk analysis at the issues conference stage and beyond. If any additional questions remain regarding Dr. Mackenzie’s qualifications, they must be reserved for the adjudicatory hearing. *See Matter of Lapidis v. Mills*, 305 A.D.2d 876, 877 (3d Dep’t 2003); *see also In Matter of Bath Petroleum Storage, Inc.*, Ruling on Discovery Disputes and Respondents’ Motion to Dismiss, 2005 WL 1410175, *5 (DEC, June 13, 2005).

2. DEC Is Not Preempted Under Federal Law from Reviewing the Public Safety Risks of the Project.

The Department has complete authority to consider the public safety risks posed by the Project as part of its review under SEQRA, including the risks posed by transporting LPG via

³³ The Applicant has conceded that an advanced degree in petrochemical engineering or geology is not a prerequisite for an expert at the issues conference by proffering [REDACTED]

[REDACTED]. In addition, William Kennedy, an individual on whom the Applicant relies for testimony that Schuyler County is adequately prepared for “the risks associated with the storage and transportation of LPG,” does not appear to have any training in petrochemical engineering. *See* Affidavit of William Kennedy, dated (but not notarized) Feb. 6, 2015, ¶ 4 (submitted with the FLLPG Response). Rather, Mr. Kennedy’s claimed expertise is based on his experience in the field of emergency services. *See id.* ¶ 1.

rail and pipeline. Federal law preempts DEC from *regulating* railways and pipelines, *see, e.g., Green Mountain R.R. Corp. v. Vermont*, 404 F.3d 638 (2d Cir. 2005) (rejecting a state’s attempt to require that a railroad obtain a separate environmental permit prior to construction at a facility owned and operated by a railroad); *Skyview Acres Co-op, Inc. v. Public Serv. Comm’n*, 163 A.D. 2d 600, 602–03 (2d Dep’t 1990) (rejecting the state Public Service Commission’s authority to approve the route of a pipeline under the exclusive jurisdiction of FERC), but GFS is not seeking regulation of those facilities. Federal law does not prevent the Department from considering the full breadth of adverse environmental impacts from a project it has the undisputed authority to regulate. *See Flynn v. Burlington N. Santa Fe Corp.*, 98 F. Supp. 2d 1186, 1190 (E.D. Wash. 2000) (finding that an ancillary facility connected to a railway was not under exclusive federal jurisdiction and could be regulated by the state); *Borough of Riverdale – Petition for Declaratory Order – the N.Y. Susquehanna & W. Ry. Corp.*, STB F.D. No. 33466, 1999 WL 715272 (S.T.B., Sept. 9, 1999) (finding that what matters for preemption “is the degree to which the challenged regulation burdens *rail transportation*” (emphasis added)). DEC’s counsel expressly recognized as much at the issues conference. Tr. 179 (“We certainly can discuss impacts.”).

The Department therefore cannot avoid examining the adverse public safety impacts or any other impacts of Project operations, including the risks from using a pipeline and railway to transport LPG to and from the facility. Contrary to statements made by DEC at the issues conference, GFS does not argue that the Department has the authority to impose mitigation measures that directly regulate the railway or pipeline. *See* Tr. 179–81. The inability to impose such measures, however, does not mean that the Department can ignore significant safety impacts during its SEQRA review. Rather, DEC’s inability to mitigate those risks must be considered in the ultimate balancing that is required under SEQRA prior to approving the

Project. *See* 6 NYCRR § 617.11(d)(5). If transporting LPG via rail and pipeline poses an unacceptable risk to public safety that cannot practicably be mitigated because of federal preemption issues, the Department should deny FLLPG’s application. *See, e.g., Lane Const. Corp. v. Cahill*, 270 A.D. 2d 609, 611–12 (3d Dep’t 2000) (upholding DEC’s denial of a permit which, despite the proposed mitigation efforts, would have had unacceptable environmental impacts); *see also WHIBCO*, 1996 WL 33141599, at *14 (stating that “if significant adverse environmental impacts are shown but there are no conditions which DEC could legally impose to mitigate them, it could be a basis for denial of the permit (i.e., for choosing the ‘no action’ alternative”).

3. Dr. Mackenzie’s Report Is Based on Sound Risk Assessment Principles.

Dr. Mackenzie’s analysis of the risks posed by the Project is based on widely accepted principles of risk assessment. The International Organization for Standardization (“ISO”) has adopted general guidelines, as well as tools and techniques, for hazard identification and risk analysis across a wide range of industries, including offshore oil drilling.³⁴ The ISO recommends that a quantitative risk analysis consist of the following steps: (1) identify the hazards, (2) determine the representative hazardous events, (3) estimate the frequency of occurrence of the representative hazardous events, (4) evaluate the direct effects of the hazardous

³⁴ *See, e.g.,* ISO, ISO 17776:2000, Petroleum and natural gas industries – Offshore production installations – Guidelines on tools and techniques for hazard identification and risk assessment, *available at* http://www.iso.org/iso/catalogue_detail.htm?csnumber=31534 (accessed Apr. 15, 2015). While no specific recommendations have been adopted for underground hydrocarbon storage, the agreed-upon concepts, tools, and techniques of the ISO can be applied across industries.

events, (5) evaluate the consequences of the identified end events, and (6) summarize the total risks.³⁵

Dr. Mackenzie took precisely the steps recommended by the ISO in conducting the quantitative risk analysis contained in his report. *See* Mackenzie Report, Att. 2.³⁶ Using data from peer-reviewed literature published by experts in the field of engineering and underground hydrocarbon storage, Dr. Mackenzie identified the potential hazards of storing hydrocarbons underground in bedded salt formations.³⁷ Based on these sources, he focused his analysis on the most frequent and serious events: hydrocarbon leakage and cavern failure.³⁸ *See id.* at 3–4. Dr. Mackenzie obtained the frequency of these events in bedded salt formations and identified the direct effects of those hazardous events, using published sources of U.S. historical data from the underground storage industry. *See id.* at 5–13. He used the European Union’s Marcogaz criteria to assess the public safety consequences of those identified end events. *See id.* Dr. Mackenzie also summarized the total risks of serious events in risk matrix format, as recommended by ISO.

³⁵ ISO, ISO 31000:2009, Risk management – Principles and guidelines, *available at* http://www.iso.org/iso/catalogue_detail?csnumber=43170 (accessed Apr. 15, 2015). A quantitative risk analysis is the generic term used for techniques that allow the risk associated with a particular activity to be estimated in absolute quantitative terms rather than in relative terms such as “high” or “low.” *See also* ISO 17776:2000, *supra* note 34.

³⁶

██████████ In addition to the explanations provided throughout his report, Dr. Mackenzie included an attachment with his report, entitled “Methodology,” which provides ample detail regarding his approach. *See* Mackenzie Report, Att. 2.

³⁷ Mackenzie based his assessment on such peer-reviewed and published works as John K. Warren, *Evaporites: Sedimentology, Resources and Hydrocarbons* (2006); D. J. Evans, *An appraisal of underground gas storage technologies and incidents, for the development of risk assessment methodology*, Health and Safety Executive of the United Kingdom (2008), *available at* <http://www.hse.gov.uk/research/rrpdf/rr605.pdf>.

³⁸ Applicant’s expert, Quest Consulting, Inc. (“Quest”) claims that Dr. Mackenzie ignores small or moderate accidents. *See, e.g.,* Quest, *Quantitative Transportation Risk Analysis for the Finger Lakes LPG Terminal* at 51, 52 (submitted with the FLLPG Response) (“Quest 2015 QRA”). Dr. Mackenzie relied, however, on comprehensive hazardous event identification conducted by experts in the field of hydrocarbon storage in bedded salt rock and explicitly limited his higher-level analysis to the top events those experts identified.

See id. Moreover, the quantitative risk frequencies Dr. Mackenzie reached also were found in a peer-reviewed article by authors using similar methodology.³⁹

Neither the Applicant nor DEC has presented any scientific basis for questioning the reliability of the ISO process employed by Dr. Mackenzie in conducting his quantitative risk assessment. They also did not show that the published data sources Dr. Mackenzie relied upon are flawed. The Applicant's consultant instead complains generally that Dr. Mackenzie did not take the approach used by Quest. *See* Quest, *Quantitative Transportation Risk Analysis for the Finger Lakes LPG Terminal* ("Quest 2015 QRA") 50–56 (Feb. 5, 2015) (submitted with the FLLPG Response). There are severe limitations to Quest's analysis, however, and its criticisms of Dr. Mackenzie's approach are unavailing, as is discussed in greater detail in below.

4. The Applicant's Assessment of the Project's Risks to Public Safety Is Flawed.

The two risk analyses submitted by the Applicant and the assessment contained in the DSEIS are insufficient to meet the hard look standard under SEQRA. The record fails to analyze certain critical Project hazards, ignores non-lethal consequences, and contains numerous errors that result in a serious undervaluing of the risks associated with the Project. These inaccuracies and omissions demonstrate the existence of a substantive and significant issue and the need for an adjudicatory hearing on potential public safety impacts.

In 2012, the Applicant submitted to DEC a Quantitative Risk Analysis focusing exclusively on the risks of fire and other equipment accidents at the Project site. *See* 2012-02-16, Quantitative Risk Assessment, Quest Consultants ("Quest 2012 QRA"). [REDACTED]

³⁹ *See* C. Yang *et al.*, *Analysis of major risk associated with hydrocarbon caverns in bedded salt rock*, 113 *Reliability Engineering and System Safety* 94–111 (2013).

As the follow-up letter indicates, however, DEC staff raised numerous concerns during the otherwise undocumented conference call, but Quest did not fully address them. *See* 2012-04-10, Quest Consultant Letter to BSK re. Quantitative Risk Assessment at 1. In particular, the Quest 2012 QRA did not account for local topography, a key variable in assessing the distance fires or releases of hazardous materials might travel. This deficiency was never corrected.

In addition to the deficiencies noted in the follow-up letter discussed above, other significant glaring problems with the Quest 2012 QRA include the following:

- Quest ignored U.S. historical frequency data on extremely serious and catastrophic events arising from well casing corrosion, cracks, bends, and failures. It limited its analysis to surface and shallow sub-surface equipment and omitted from its risk analysis all hazardous events involving well pipework and casing connecting hydrocarbon storage caverns to the surface. These events often have consequences well beyond the surface locations of the caverns. By omitting those events, the Applicant inappropriately limited its analysis to events at the facility itself.⁴⁰
- The frequency data Quest used as the basis for determining hazardous event frequencies in process equipment were not derived from documented experience at underground LPG storage facilities in the U.S. Quest instead used a non-public, self-reported database which appears to be almost entirely limited to events at off-shore exploration and production facilities in the U.K. *See* Quest 2012 QRA at 4-2 (citing to HSE HCRD, Hydrocarbon Releases System, Health and Safety Executive (2011) available at <https://www.hse.gov.uk/hcr3>). Quest, the Applicant, and DEC have not offered any evidence that the frequency data from offshore facilities is comparable to facilities storing hydrocarbons in underground salt caverns.
- Quest omitted the historical risks associated with storage of LPG in U.S. salt caverns, and analyzed only potential accidents involving surface equipment.

⁴⁰ Quest bases its approach on a misinterpretation of Report RR671 published by the U.K.'s Health and Safety Executive in 2008. The Quest 2015 QRA incorrectly states that RR671 provides that "the risk from underground storage is dominated by *the surface and shallow sub-surface equipment* (valves, piping, etc.)." Quest 2012 QRA at 4-5 (emphasis added). RR671 findings however are that "[t]he risk [of underground storage of hydrocarbons] is dominated by a release from the *well connecting the storage cavity to the surface*." Health and Safety Executive, *Failure Rates for Underground Gas Storage*, available at <http://www.hse.gov.uk/research/rpdf/rr671.pdf> (2008) (emphasis added). Quest therefore is incorrect that RR671 recommends focusing on surface and shallow sub-surface equipment.

Even with these deficiencies, Quest calculates the risk to members of the public from the Project's onsite operations as ranging from 10^{-3} to 10^{-6} per year. *See* Quest 2012 QRA at 6-3–6-6. While Quest concludes that such a risk is acceptable, it is as much as two orders of magnitude above the levels recommended by articles cited in the Quest 2012 QRA, which conclude that the maximum tolerable risk for the public for new process activities is 10^{-5} per year.⁴¹ There is nothing in record that explains why the community around the Project should be subjected to a risk that is above recommended levels.

The Quest 2015 QRA attempts to evaluate the risks of transporting LPG to and from the Project, but the study is methodologically deficient and understates the true safety impacts of these activities. The errors and omissions in Quest's analysis include the following and highlight the need for an adjudicatory hearing:

- Quest claims that the risk of the Project should be evaluated on a per-year basis rather than over the 25-year period used by Dr. Mackenzie. *See* Quest 2015 QRA at 51. Quest does not cite to any authority to support this point or account for the cumulative risk the Project will pose over a proposed 50-year lifespan.
- Quest downgrades the risk Dr. Mackenzie calculated for an LPG release from the pipelines by ignoring the 21 miles of existing pipeline that will be used to transport the LPG to the Project. *See id.* at 52. Although this pipeline already exists, the risk from its transport of the Project's LPG cannot be ignored.
- Quest limited its analysis to the number of fatalities per cavern, rather than fatalities per facility. Most authors discussing underground storage risks calculate risks per facility, not risks per cavern, because caverns at a given facility share the same underlying geology, the same infrastructure and facilities, and the same or similar management.⁴² By using the number of caverns, Quest significantly reduced the value of the risk it calculated.
- Quest also limited its quantification of the total public safety risk to fatalities alone. The public safety impacts of the most serious accidents associated with underground

⁴¹ *See* Ernst Meyer, *et al.*, *What Risk Should Public Accept from Chemical Process Facilities?*, 26 *Process Safety Progress* 2 (June 2007).

⁴² *See* Warren, *supra* note 37; Evans, *supra* note 37; Yang, *supra* note 39.

storage of hydrocarbons include not only deaths, but also injuries, fires, explosions, destruction of homes, evacuations and relocations, property loss in the tens of millions of dollars, and environmental contamination of air, soil, and water.⁴³

- Quest argues that Schuyler County already hosts similar industrial activities and that the risks posed by the Project therefore are acceptable. *See id.* at 55. Quest fails to provide a baseline quantitative evaluation of these existing risks, provides no authority for the concept that higher risks should be accepted in the presence of existing risks, and presents no evidence that existing risks are considered tolerable in Schuyler County, much less the wider Seneca Lake community.
- The Quest 2015 QRA briefly addresses the risks posed by a rail accident on the trestle crossing Watkins Glen Gorge and acknowledges that the consequences of a derailment over the Gorge would be “severe.” *Id.* at 54. The Quest 2015 QRA fails, however, to take account of the terrain of the area in evaluating this risk. The topography under the trestle has the potential to funnel an LPG cloud down into the Village of Watkins Glen, which has not been addressed in any of the documents submitted by the Applicant.

Despite the above omissions and deficiencies, Quest concludes that the level of societal mortality risk of the Project is 1.19×10^{-4} per year per cavern. *See id.* at 53. This figure is two orders of magnitude higher than the levels recommended in sources cited by Quest.⁴⁴

When the deficiencies in the Quest QRAs are corrected, the actual level of public risk posed by the Project is extremely serious. *See Mackenzie Report* at 14. The significant omissions and errors in the Applicant’s analysis therefore must be addressed before the Department can approve the Project under either SEQRA or ECL Title 13. While both the Applicant and DEC point to Schuyler County’s Hazard Mitigation Plan as an adequate mitigation measure, the adequacy of any mitigation measure cannot be ascertained until the extent of the Project public safety risks is evaluated properly. Moreover, even with a robust Hazard Mitigation Plan in place, there often is little that can be done after a serious LPG

⁴³ The ISO provides that, in a QRA risk summation, the overall frequency of each consequence or consequence category be determined by summing up the relevant frequencies for all the possible end events. *See ISO 17776:2000, supra* note 34.

⁴⁴ *See Meyer, supra* note 41.

accident, except evacuate the area, wait for fires to die out or vapor clouds to disperse, and then address the damage.⁴⁵ The potentially extensive harm to the community already will have been done. Although an appropriate Hazard Mitigation Plan may help communities deal with the impacts of an accident, it does not reduce the risk that such an event will occur. An adjudicatory hearing therefore is required to identify and more completely analyze the full range of public safety risks and resolve the factual gaps and inaccuracies in the DSEIS and the record.

C. There Is a Substantive and Significant Issue Whether Storage of LPG in the Project Caverns Could Cause a Rise in the Salinity of Seneca Lake.

With its submission of the *Technical Memorandum—Review of Finger Lakes LPG Storage, LLC, Proposed LPG Storage Facility* prepared by Dr. Tom Myers (“Myers Report,” attached as Exhibit 3 to the GFS Petition), GFS has more than met its burden of demonstrating that a substantive and significant issue exists regarding the threat that the Project’s LPG storage poses to the water quality of Seneca Lake. Dr. Myers, an experienced hydrologist, bases his report on an examination of past events and peer-reviewed scientific literature. His report identifies a major omission in the DSEIS and application materials and therefore presents an issue for adjudication. *See, e.g., Hydra-Co Generations Inc.*, 1988 WL 1095749, at *2 (“[T]o raise an issue for adjudication, an intervenor must allege facts that . . . demonstrate an omission in the application or draft permit . . .”).

Nothing in the application, its supporting documents, the analysis of Department staff, or any other materials in the record rebuts GFS’s offer of proof regarding the threat that storing LPG poses to the water quality of Seneca Lake. *See, e.g., Bonded Concrete, Inc.*, 1990 WL 154836, at *2 (“Offers of proof submitted by a prospective intervenor may be completely

⁴⁵ See Propane Emergency/Response Guide for New England, Propane Gas Association of New England rev. 30 at 29 (Sept. 9, 2009) sponsored by the, available at <http://www.mass.gov/eopss/docs/dfs/emergencyresponse/2008-emergency-response-plan-rev-9-9-09.pdf> (indicating that all but one scenario for propane fire requires evacuation).

rebutted by reference to any of ... [the application, its supporting documents, the analysis of the Staff of the agency and any responses provided by the applicant,] alone or in combination.”). Nor is there anything in the Draft Permit addressing that risk. Further inquiry therefore is required at an adjudicatory hearing.

1. The Myers Report Establishes That the Project’s Potential to Increase the Salinity of Seneca Lake Is an Adjudicable Issue.

Dr. Myers explains how the storage of LPG in the Applicant’s caverns could cause an increase in the salinity of Seneca Lake. The potential salinity increase is a substantive issue because it casts doubt on the Applicant’s ability to demonstrate that the caverns are appropriate for storing LPG, as required under ECL Title 13, and on DEC’s ability to find that the Project avoids or minimizes adverse environmental impacts to the maximum extent practicable, as required under section 617.11(d)(5) of SEQRA’s implementing regulations. *See* 6 NYCRR § 624.4(c)(2); GFS Petition at 13–14. Because neither the DSEIS nor any supporting materials in the record evaluates the issue identified by Dr. Myers, a reasonable person would require further inquiry into whether the Project could contaminate the drinking water supply for more than 100,000 people. This issue also is significant because it has the potential to result in the denial of the underground storage permit or, at a minimum, the imposition of significant modifications to the terms of the Draft Permit. *See* 6 NYCRR § 624.4(c)(3).

Dr. Myers’ analysis builds on the work of Dr. Halfman, Dr. Wing, and others who documented a significant spike in the salinity levels of Seneca Lake from 1965 to 1970. *See* Myers Report at 5–7. This spike, representing a *50 percent increase* in the Lake’s chloride levels, coincided with the commencement of LPG storage [REDACTED]

██████████.⁴⁶ *See id.* at 4. Given the volume of Seneca Lake, creating an increase of this magnitude would require an influx of more than 300,000 tons of chloride, or dumping between approximately 4,496 and 7,065 railcars of salt into the Lake.⁴⁷

Dr. Myers, Halfman, and Wing all considered other potential explanations for this spike. *See id.* at 9–10, App. C. Drs. Halfman and Wing reviewed available evidence of potential spills and discharges, from DEC and other public sources. *See id.* at App. C. They considered road salt, reported discharges from mines on Seneca Lake, and contributions from runoff and the waterways that feed the Lake. Table 1 summarizes the largest of the potential sources identified.

⁴⁶ The salt (“NaCl”) in Seneca Lake is composed of sodium (“Na”) and chloride (“Cl”). Because sodium is positively charged, and chloride is negatively charged, they often combine together in a 1-to-1 molar ratio. When the salt dissolves in water, the two elements separate, and either can be used to measure salinity. In Seneca Lake, in 2014, the concentration of sodium was 75 micrograms per liter, and the concentration of chloride was 122 micrograms per liter (a roughly 1-to-1 molar ratio, because chloride constitutes approximately 60.663 percent of the atomic weight of the NaCl molecule). While Dr. Myers’ report discusses salinity in terms of chloride, levels of the two elements are related.

⁴⁷ Given its atomic weight, an influx of 300,000 tons of Cl would require approximately 494,535 tons of NaCl. Salt typically is transported in covered hoppers. *See, e.g.*, Infinity Rail, Infinity Rail Products, Covered Hoppers, available at <http://www.infinityrail.com/covered-hoppers.html>. Covered hoppers have an approximate freight capacity of between 70 and 110 tons, depending on the type of hopper. *See* CSX, Railroad Equipment, available at <http://www.csx.com/index.cfm/customers/equipment/railroad-equipment/>.

Table 1

Source	Years	Total Chloride Load (tons)	Load of Chloride in tons/year
Himrod salt mine ⁴⁸	1969–unknown	667,265	166,816.4 ⁴⁹
Morton salt mine ⁵⁰	Mid to late 1970s	606,605	151,651.3
Permitted salt mine ⁵¹	Before 1995	Unknown	1,314
Permitted salt mine ⁵²	1999–2014	Unknown	9,490
Stream/runoff sources ⁵³	Unknown	Unknown	26,000–31,100

The data in Table 1 reflects the findings in Dr. Myers’ report, based on work done by Drs. Halfman and Wing, that there is no evidence that sources such as existing salt mines or surface runoff contributed a sufficient volume of salt to Seneca Lake at the right time to explain the 50 percent increase in salinity recorded from 1965 to 1970.⁵⁴ *See id.* at 9–10, App. C. While some of the sources identified above could have helped to maintain the levels of salinity recorded in Seneca Lake starting in 1969, they do not explain the increase that was recorded beginning in 1965.

In his report, Dr. Myers presents his expert opinion on the cause of the 1965–1970 increase in salinity. His analysis is based on the work of other peer-reviewed literature in hydrogeology, which Dr. Myers cites throughout his report, as well as his own expertise as a

⁴⁸ *See* Myers Report, App. C at 2 (citing J.D. Halfman, *An update on the chloride hydrogeochemistry in Seneca Lake, New York*, Finger Lakes Institute, Hobart & William Smith Colleges (2014) (“Halfman 2014”).

⁴⁹ This figure is based on an assumed five-year leakage period. *See id.*, App. C at 2 n. 1.

⁵⁰ *See id.*, App. C at 1 (citing M.R. Wing et al., *Intrusion of saline groundwater into Seneca and Cayuga Lakes, New York*, 40 *Limnology and Oceanography* 4, 791–801 (1995) (“Wing 1995”). Some of the salt from this source may not have reached Seneca Lake, because this was an injection into a formation beneath the Lake, not an injection directly into the Lake.

⁵¹ *See id.*, App. C at 1 (citing Wing 1995).

⁵² *See id.*, App. C at 1 (citing Halfman 2014).

⁵³ This source includes road salt. *See* Myers Report, App. C at 2 (citing Halfman 2014).

⁵⁴ [REDACTED]

Even that volume, however, would not account for the 300,000 ton increase in chloride that would have been needed to record a 50 percent increase in the chloride levels in Seneca Lake.

hydrogeologist. *See id.* at 11–14. Dr. Myers’ reasoned expert opinion is that cycling brine and LPG in and out of the caverns that were used beginning in 1964 created changes in pressure that acted on the walls of the caverns.⁵⁵ *See id.* at 12. The pressure strain created by the LPG and brine cycling on the cavern walls was transmitted to the salt layers adjacent to the caverns.⁵⁶ Because salt is viscoelastic, the pressure strain was transmitted along the uninterrupted salt beds that run the length of Seneca Lake and diminished over distance.⁵⁷ *Id.* at 12, App. F.

Approximately 10 miles north of the caverns, the salt beds intersect the sediments on the bottom of Seneca Lake.⁵⁸ *See id.* at App. E. Under normal conditions, groundwater flows through the extremely salty sediments and into Seneca Lake, which explains why Seneca Lake normally is more saline than other Finger Lakes. As Dr. Myers’ calculations show, however, a relatively small pressure signal reaching the point of intersection between the salt beds and the sediments at the bottom of Seneca Lake would result in an increase in the amount of groundwater flowing through the sediment and into the lake. *See id.* at App. F. The increased groundwater flow through those sediments would have flushed the heavily saline water in the sediment pores into Seneca Lake. While the signal in the salt beds would travel very rapidly from the caverns to the point where the salt beds intersect the lake bottom, the flushing of the

⁵⁵ These processes are similar to those described in the literature concerning the long-distance transmission of pressure through earth tides, seismic activity, or earthquakes, which cause pressure fluctuations and barometric pressure changes affecting groundwater levels.

⁵⁶ [REDACTED]
[REDACTED]
The caverns are kept full during solution mining and the pressure change during this process is minimal.

⁵⁷ Dr. Myers thus did not need to assume, and did not assume, the existence of a cavern leak or a connection between the interior of the caverns and either groundwater or the lake, [REDACTED]
[REDACTED] Dr. Myers assumed that the caverns were sealed, did not leak, and were not connected to groundwater or Seneca Lake.

⁵⁸ [REDACTED]
[REDACTED] the caverns would not fill with brine, if they were not below the water table in saturated aquifers. The saturation of salt beds may not obvious because their low permeability does not allow significant water flow. *See Myers Report*, App. F. Whether the salt is saturated is irrelevant to the mechanics of Dr. Myers’ hypothesis, however, which depends on the viscoelastic properties of salt.

2. Nothing in the Record Rebut GFS' Offer of Proof Regarding the Threat Storing LPG Poses to the Water Quality of Seneca Lake.

The Applicant and DEC fail to rebut the analysis contained in the Myers Report. The Applicant's experts dismiss Dr. Myers' analysis out of hand, but they cite no record evidence providing an alternative explanation for the salinity spike. See [REDACTED]; Donald I. Siegel, *Evaluating the Scientific Plausibility of "Salting" Seneca Lake by Storing Liquefied Propane in a Brine Filled Salt Mine, Watkins Glen, New York* 7 ("Siegel Report," submitted with the FLLPG Response); [REDACTED]. The unsupported opinions of the Applicant's experts are insufficient to rebut GFS's offer of proof. See *Bonded Concrete, Inc.*, 1990 WL 154836, at *2.

Similarly, DEC fails to point to anything in the application, its supporting documents, the analysis of the Department staff, or any other materials in the record that rebuts Dr. Myers' analysis. While the staff's expertise "is an important consideration in determining whether an issue is adjudicable," *Crossroads Ventures*, 2006 WL 3873403, at *3, there is nothing in the record demonstrating that DEC's experts have considered the issue raised by Dr. Myers, and the unsubstantiated representations of counsel are not competent evidence of disputed hydrological facts. DEC opted not to present reports by any of their staff experts in this area, because they have no measurements of the pressures in the salt beds that could defeat Dr. Myers' claim.

Moreover, the points raised by the Applicant and DEC fail to engage with GFS's offer of proof. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]. None of these responses adequately rebuts Dr. Myers' analysis.

a. The Decrease in Salinity Levels in Seneca Lake in the 1970s Does not Explain the 50 Percent Increase in Chloride Levels That Began in 1965.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] As is discussed above, however, there is no evidence of any spill, leak, or discharge occurring in the mid-1960s of sufficient volume to account for a 50 percent increase in the chloride levels that occurred between 1965 and 1970. Neither the Applicant nor the Department identify any such incident or point to any evidence in the record that would indicate that such an event occurred. [REDACTED]

[REDACTED]

[REDACTED]

As the Myers Report illustrates, chloride levels were on the rise even before the 50 percent spike occurred. *See* Myers Report at 9 & Fig. 4. Waste from mines or increased use of road salt, measured from streams and runoff, therefore may have caused gradual increases in salinity prior to the spike, [REDACTED]

b. The Sediment at the Bottom of Seneca Lake Is Sufficiently Permeable to Allow for Significant Groundwater Flow.

Without citing to any scientific literature or record evidence, the Applicant [REDACTED] contended that Seneca Lake has a clay bottom too impermeable to allow the groundwater flow described by Dr. Myers. *See, e.g.,* [REDACTED] Siegel Report at 7–8. Dr. Myers, by

[REDACTED]

[REDACTED]

c. The Testing Done by the Applicant to Date Is Insufficient to Rebut GFS's Offer of Proof.

[REDACTED]

[REDACTED] Because no testing was conducted in the salt beds themselves, the Applicant and DEC are not able to identify any evidence that rebuts GFS's offer of proof. The absence of such testing clearly highlights the need for additional inquiry through an adjudicatory hearing.

d. The Use of Adjacent Caverns for Natural Gas Storage Does Not Rebut GFS's Offer of Proof.

The use of adjacent caverns for storage of natural gas also does not invalidate the offer of proof presented by GFS. There is no evidence in the record that the natural gas caverns will be operated in a manner to create the same pressure changes as will be present in the LPG caverns.

[REDACTED]

[REDACTED]

[REDACTED]

Nothing in the Certificate Order indicates that those caverns actually will operate with pressure changes of .7 psi per square foot. In addition, neither the Certificate Order nor anything in the record indicates that the existing natural gas facilities operate such pressure changes. There also is nothing in the record to indicate that natural gas will act in the same manner on the cavern walls as LPG and brine. Natural gas would diffuse into the pores of the salt formation forming the walls of the cavern much faster than brine and LPG.⁶³ The Applicant and DEC therefore have not rebutted GFS's offer of proof of a substantive and significant issue relating to the potential adverse impacts of the Project's LPG storage on the water quality of Seneca Lake. Important questions remain regarding those potential adverse impacts that must be resolved during an adjudicatory hearing.

D. The Sufficiency of the Noise Analysis Should Be Adjudicated.

Dr. A. Brook Crossan and Dr. Nancy C. Neuman of Sandstone Environmental Associates, Inc. ("Sandstone") prepared an assessment of the noise likely to be associated with Project construction and operation. *See* GFS Petition, Ex. 4 ("Sandstone Report"). Sandstone is an environmental consulting firm providing expertise in monitoring, modeling, and mitigation of

⁶³ The interaction of pressurized natural gas with the internal cavern walls would be governed by multiphase flow principles. Simply stated, multiphase means the system contains liquids of differing densities, such as fresh water, brine, or oil, and gases such as natural gas. The conductivity of the formation, such as salt, to the various fluids depends on the interaction of the fluids with the formation, so that some fluids (gas or liquids) would flow into the formation faster than others. Gas naturally flows faster in smaller pore spaces because it has much less viscosity. Natural gas stored in the caverns would be under pressure so there would be a pressure gradient pushing the gas into the pore spaces of the salt. If the pores are saturated with liquid, it would displace the liquid and dissolve into the liquid, until the liquid is saturated with natural gas. This gas movement into the salt would significantly decrease the transmission of pressure from the cavern into the salt. Because the pores are mostly full of liquid, there would be very little flow of brine or LPG into the salt and the pressure would transmit much more efficiently. *See* R.A. Freeze, J.A. Cherry, *Groundwater* (1979) (providing a basic description of the processes of multi-phase flow).

noise, and Drs. Crossan and Neuman have extensive experience analyzing construction and industrial noise in the context of environmental impact review under SEQRA.⁶⁴ Sandstone conducted a review of the literature on noise transmission over water bodies, monitored noise in the Project area at receptors on both sides of Seneca Lake, and calculated potential Project noise levels at those sites. Sandstone’s analysis supports Dr. Flad’s view that the Project will have potentially significant unmitigated impacts on community character, *see* Section II(E) below, and also demonstrates that there are noise issues that require separate adjudication.

1. The Noise Issues Are Substantive and Significant.

Sandstone identified numerous deficiencies in the series of sound studies prepared for the Applicant by Hunt Engineers, Architects & Land Surveyors (“Hunt”). *See* Sandstone Report 4, 9-15. Sandstone also made 16 recommendations for additional work that will be required to address those deficiencies. *See id.* at 16–19. The upshot of the Sandstone Report is that the following sub-issues warrant adjudication:

- What is the appropriate region of influence, given the topography of the area, particularly the adjacent lake?
- What measures should be used to quantify ambient sound levels and potential noise impacts?
- What corrections should be made to measured ambient sound levels in rural areas to ensure that an appropriate baseline is used for noise impact analysis?
- What is the ambient noise level at each appropriately identified receptor?
- What are the reasonably anticipated noise impacts of Project construction at each appropriately identified receptor?
- What are the reasonably anticipated noise impacts of Project operation at each appropriately identified receptor?
- What is the magnitude of Project noise impacts at each appropriately identified receptor?

⁶⁴ The *Curriculum Vitae* of Drs. Crossan and Neuman are attached as Appendices 7.3.1 and 7.3.2 to the Sandstone Report.

- To what extent can significant Project noise impacts be mitigated?

Because Hunt too narrowly defined the region of influence and overstated background sound levels at the few receptors it did identify (thereby understating noise impacts), it will be impossible to adjudicate the last five sub-issues until all of the errors are corrected, additional analyses are completed, and further mitigation is incorporated into permit conditions. *See Matter of St. Lawrence Cement, Co.*, First Interim Decision, 2002 WL 31930486, *16–17 & n.24 (DEC, Dec. 6, 2002) (requiring preparation and service of an additional submission prior to the adjudicatory hearing on noise issues)

Without that “further inquiry,” 6 NYCRR § 624.4(c)(2), DEC will not have a legally adequate record on which to base the findings required under SEQRA. The Department will be unable to certify that it took the requisite hard look at potentially significant adverse noise impacts and mitigation measures or that, consistent with social, economic and other essential considerations, the Project is the alternative that will avoid or minimize adverse environmental effects to the maximum extent practicable. *See* ECL § 8-0109(8); 6 NYCRR § 617.11(d)(4)–(5). Moreover, the significant unmitigated noise impact that already has been identified on the east side of Seneca Lake, both alone and when integrated into a community character analysis, is grounds for denial of the permit, modification of the Project, or supplementation of the Draft Permit with additional conditions. The noise that will be created by the Project therefore is a substantive and significant issue. *See* 6 NYCRR §§ 624.4(c)(2)-(3), 624.4(c)(6)(i)(b).

2. The Sandstone Report Survives the Critique of Both the Applicant and the Department.

The Applicant and DEC mount three basic attacks on the Sandstone Report. FLLPG claims that the Sandstone Report “ignored reality” and that Sandstone “made inappropriate leaps of faith about what can possibly be heard across the Lake.” FLLPG Response at 38. The

Applicant and the Department also contend that the Project noise impacts identified by Sandstone will not be significant, in part because they will not be “out of character” with existing noise. *Id.* at 39 & Ex. 7 at 1 (Memorandum from Hunt to Kevin Bernstein, dated Feb. 9, 2015 (“Hunt Mem.”)); Tr. 419. Finally, FLLPG and the Department accuse Sandstone of failing to take into account the existing noise monitoring condition in the Draft Permit. *See* FLLPG Response at 39; Tr. 424. None of these arguments survives scrutiny.

a. Sandstone’s Noise Monitoring and Modeling Demonstrates That an Appropriate Region of Influence for Project Noise Will Include Both Sides of Seneca Lake.

Contrary to the Applicant’s contention, Sandstone was the only analyst who paid attention to reality, actually measuring noise from truck and rail sources near the Project site at receptors on both sides of Seneca Lake.⁶⁵ *See* Sandstone Report at 5–6 & Apps. 7.2.1–7.2.3. Sandstone’s monitoring demonstrated that northbound traffic on the steep hill up to the Project site was louder than that on level road and that the loudest traffic noise on the west side of the Lake originated from an off-site source. *See id.* at 7–8. Sandstone also established that both truck and rail noise was audible along the full length of Route 14 from Watkins Glen to Geneva and on the east side of the Lake across from the source, where there are sensitive receptors such as private homes. *See id.* at 7-10. Because Project construction and operation will increase truck and rail traffic, generating potentially significant noise impacts on both sides of Seneca Lake, the region of influence for the noise study should have included the Route 14 corridor and the eastern shoreline. *See id.* at 9–10.

⁶⁵ By contrast, the only noise *measured* at the receptors selected by the Applicant came from vehicle traffic passing the Project site, and the receptors were all on the western side of the lake. For the same receptors, the Applicant *calculated* noise impacts from the yet-to-be-built rail siding and turn-around “right on the site,” but that was the only train noise that DEC evaluated. *See* Tr. 426.

The Applicant and the Department offer two arguments in defense of their cramped region of influence. The Applicant claims that DEC’s Program Policy, *Assessing and Mitigating Noise Impacts* (2001) (“Noise Policy”) limits receptor locations to the Project site and adjacent property. See FLLPG Response at 39; Tr. 401–02. DEC contends that the Project would not generate enough off-site traffic to warrant a noise analysis. See Tr. 425–27. Both defenses fail.

The Noise Policy is a guidance document, “not a fixed rule,” and its purpose is “to ensure compliance with statutory and regulatory requirements,” including SEQRA. Noise Policy at 1 n.1. The Noise Policy recommends that receptors be located on or adjacent to a project site, because project-generated sound *usually* will be loudest at those locations, and the practice thus *usually* represents a conservative approach to noise analysis. But standard procedures may not be conservative when a project is situated in a context with *unusual* acoustic properties; indeed, the failure to consider effects of site topography may impugn the sufficiency of a noise analysis. *Matter of Dalrymple Gravel & Contracting Co.*, Ruling on Issues and Party Status, 2001 WL 1172598, *8 (DEC, Sept. 25, 2001) (finding noise impacts adjudicable in part because “the effects of site topography on noise levels [were] not considered”).⁶⁶ Because SEQRA’s mandate is to take a hard look at potentially significant noise impacts and to mitigate them to the maximum extent practicable, “[n]othing set forth in [the Noise Policy] prevents DEC staff from varying from that guidance as specific circumstances may dictate.” Noise Policy at 1 n.1.

DEC and other lead agencies have recognized the need to depart from the Noise Policy. To evaluate noise from the Bellayre ski resort, receptors were placed within a one-mile radius of the project. See Ecology & Environment, Bellayre Mountain Ski Center UMP-DEIS (“Bellayre DEIS”), App. AG at 5 (2001), http://www.dec.ny.gov/docs/permits_ej_operations_pdf/

⁶⁶ In *Dalrymple*, the amphitheater effect did not require departure from standard procedure with respect to receptor locations, but the site topography had an impact on ambient noise, which had not been accurately measured. 2001 WL 1172598, at *7–*8.

[bellappag1.pdf](#). For the Sterling Forest Resort, one receptor was located more than 4,000 feet from the proposed location of the hotel/casino and several were miles away along highways that would serve the project. *See* DEIS, Sterling Forest Resort, III.12-9 & App. H at 17 (mapping receptor locations), <http://www.tuxedogov.org/sterlingforestresort/deis> (click on “Noise” and “Appendices A-X”). Notably, in both of these cases, noise was monitored over land, which causes greater attenuation of sound over distance than water does. *See* Sandstone Report at 4–5.

Given the specific circumstances of the LPG storage facility, DEC should have departed from the usual guidelines in selecting noise receptors. The Department recognizes, the Applicant has not denied, and the scientific literature confirms that noise attenuation is reduced over large water bodies. *See id.* (quoting Noise Policy at 10). The acoustic properties of Seneca Lake mean that Project-generated noise along the western shore will travel to the east side of Seneca Lake.⁶⁷ Sandstone has documented that noise from Reading is audible and intrusive in Hector (at the lakeshore homes), and the Applicant’s consultant predicts that the Project may cause a noise increase on the eastern shore of Seneca Lake of as much as 20 dBA—unquestionably a significant impact.⁶⁸ The Applicant thus may not rely on the Noise Policy as justification for confining its noise analysis to the lake’s western side.

The Department’s claim that off-site Project-generated traffic is too trivial to warrant evaluation is similarly unpersuasive. “The train whistles at the off-site road crossings are 23 dBA louder than the loudest on-site noise generator and exist for a longer period of time.”

Sandstone Report at 8. The Project would have “a maximum anticipated volume of 32 . . .

⁶⁷ As the Applicant admitted at the issues conference, the LPG storage facility’s lakeside location distinguishes it from the projects at issue in *Dalrymple* and *Seneca Meadows*, which were sited next to residences. *See* Tr. 407.

⁶⁸ Hunt calculates that “the maximum on-site noise level of 88.9 dBA (train activities) would be perceived on the eastern shore as 51.9.” Hunt Mem. at 1. Because Sandstone measured normal background noise levels at the Hector receptors in the “mid- to high 20s,” Sandstone Report at 7, the Project may cause more than a 20 dBA noise increase at lakeside homes. The Department describes a sound pressure increase of “Over 20” as “Very objectionable to intolerable.” Noise Policy at 15.

inbound and outbound cars on any given day and a draft of 24 non-Finger Lakes cars, buffer car and engine,” DSEIS at 127, thereby more than doubling the length of the typical train running between Watkins Glen and Geneva, *id.* at 125. Moreover, there could be as many as 72 cars on a single train transporting LPG. *See id.* Loaded rail cars typically will arrive during summertime, *id.* at 33, when vacationing urbanites are seeking a peaceful lakeside retreat, and there is no permit condition limiting night-time rail traffic, *see* Tr. 416–17. In the worst-case scenario—which cannot be ruled out under the Draft Permit and therefore is the appropriate basis for analysis—the Applicant could run a 32-car freight train, complete with whistle, in the middle of the night, for weeks at a time, during the height of the tourist season. Even if only one train is added per day, the magnitude of off-site noise impacts cannot be assessed without documentation of how frequently trains currently run, on which days, and during which hours—and none of that information is in the record.⁶⁹ What we do know is that “[t]he train traveling at just a few miles an hour along the lakefront had a L_{eq} of 75 to 76 dBA at 50’ for just the track noise. The L_{max} of the train whistle was 112 dBA.” Sandstone Report at 8. The Department therefore has no rational basis for excluding analysis of off-site noise sources, which will be audible along the western rail corridor and on the eastern shore of Seneca Lake.

b. The Sandstone Report Documents the Potential for Significant Adverse Noise Impacts.

As has been explained above, the fact that “truck and rail traffic is currently part of the noise landscape,” Hunt Mem. at 1; *see* Tr. 425 (“Rail lines and highways serving the site already exist and already carry train and truck traffic . . .”), does not eliminate the potential for

⁶⁹ The same can be said of off-site truck traffic. A small increase in volume can have a significant impact on noise, if the additional trucks run during otherwise quiet periods, such as on weekends or during the night. There is nothing in the Draft Permit to limit the hours of truck travel for Project construction and operation, and the Applicant has confirmed that the “loading facility would be capable of operation on a 24-hour basis, 365-days a year.” FLLPG Motion to Affirm Confidentiality of Protected Materials, dated Jan. 26, 2015, at 1.

significant Project noise impacts, because the Draft Permit does not rule out weekend or night-time construction or operation, including during the peak vacation period, *see* Tr. 416-17.⁷⁰

Thus, even if Project-induced noise will not be qualitatively “out of character” with existing weekday noise, FLLPG Response at 39; Hunt Mem. at 1, the sufficiency of the Applicant’s noise analysis remains a substantive and significant issue. Moreover, because neither the Applicant nor DEC adequately defends that noise analysis from the criticisms set forth in the Sandstone Report, additional study is needed before the final five sub-issues defined by GFS can be adjudicated.

i. The Applicant Understated Baseline Noise Levels on the West Side of Seneca Lake.

Accurate measurement of ambient noise is crucial because overstated baseline noise results in understated noise impacts from Project construction and operation. Sandstone identified numerous problems with the Applicant’s baseline noise analysis, including: (1) the absence of detailed drawings of noise sources and receptors, (2) lack of information about what caused the L_{max} at each receptor location, (3) the failure to report concurrent traffic classification counts, (4) the use of an inappropriate noise parameter in an area heavily influenced by individual heavy truck passbys, (5) cicada noise contamination of night-time measurements taken in July, and (6) night-time measurements taken too early to reflect true baseline night-time noise levels. *See* Sandstone Report at 11-12. At the issues conference, DEC did not respond to any of these criticisms, and the Applicant tried but failed to address items (1) and (4). The

⁷⁰ The Applicant contends that Project noise “is likely to be imperceptible” because residents on the eastern shore of Seneca Lake will perceive the maximum noise level from on-site rail activities as 51.9 dBA, which is less than the currently observed sound peaks in Hector. Hunt Mem. at 1. But if the 51.9 dBA noise occurs at different times than current sound peaks, and particularly if it occurs at night, the more than 20 dBA increase from measured normal background certainly will be perceptible and likely will be perceived as very objectionable. *See* Noise Policy at 15.

sufficiency of the Applicant's analysis of baseline noise therefore remains an issue requiring adjudication.

The sufficiency remains in doubt even as to items (1) and (4). The Applicant claims that, once it properly located the hotel receptor, all sound pressure levels ("SPLs") were measured from points facing the noise source. *See* Hunt Mem. at 2. But there is still nothing in the record to support that claim, even though Sandstone explicitly asked for a "sketch, with clearly delineated dimensions, showing the exact location of the monitoring with respect to the major noise existing source [and] the sensitive receptor." Sandstone Report 11 (explaining the importance of understanding of the relationship). The Applicant's only response to Sandstone's argument that an L_{50} or L_{90} should have been used in an area dominated by irregular heavy truck noise (instead of the L_{eq}), *see id.*, was that the use of L_{eq} was consistent with DEC guidance and comments. *See* Hunt Mem. at 2. But the Noise Policy "is not a fixed rule," and neither DEC nor the Applicant has explained why the L_{eq} was an appropriate parameter given the "specific circumstances" of the Project site.⁷¹ Noise Policy at 1 n.1. Sandstone thus demonstrated that the Applicant overstated ambient noise levels near the Project site and thus failed to identify all potentially significant impacts, even on the west side of Seneca Lake.

The Applicant attempts to avoid adjudication of noise issues by attacking the ambient noise measurements made by Sandstone in December 2014. *See* Tr. 410. According to FLLPG, measuring in the winter is inconsistent with the Noise Policy. *See id.*; Hunt Mem. at 1. The Department guidance does not recommend measuring noise during the summer, however, but

⁷¹ Different noise measures are appropriate for different types of noise. The single event level is a parameter that is often used for short-term intermittent noise sources such as aircraft and rail operations, so that intrusive noise will not be understated by averaging across the period of monitoring. The Noise Policy describes the various designations of SPLs, but it does not recommend use of the L_{eq} for the specific circumstances of the Project. *See* Noise Policy at 7-8. When the L_{eq} is used, the guidance recommends that the noise analysis also provide the L_{max} , L_{min} , and time period of measurement. *See id.* at 7.

rather acknowledges that “[s]ummer time [sic] noises have the greatest potential for causing annoyance because of open windows, outside activities, etc.” Noise Policy at 10 (explaining that “time of year” is one of the environmental settings that have an effect on noise levels).⁷²

Sandstone measured noise from the deck of a private home and a nearby dock in Hector, thereby approximating exposure to sounds that could be heard from Reading during warm weather. In any event, the Applicant admitted that “there’s nothing wrong with taking [noise measurements] in the winter months,” Tr. 410, which its consultant also did, *see id.* The substantive and significant noise issues thus are untouched by the Applicant’s attack on the Sandstone Report.

ii. The Applicant Completely Ignored Construction Noise.

The Applicant provided no analysis of noise impacts during the construction period, even though it plans to use heavy equipment, and the number of workers traveling to the Project site is expected to be about five times the number of permanent employees. In response to Sandstone’s observation that FLLPG failed even to identify the construction schedule or type of equipment that would be used—both key elements of a construction noise analysis—the Applicant claimed that “construction activities have been outlined in the Storm Water Pollution Prevention Plan along with a detailed schedule.” Hunt Mem. at 2. The Applicant’s only other explanation for the complete omission of construction noise analysis was—once again—that the noise would not be “out of character” with existing conditions and that it would be “temporary in nature.” *Id.* On that basis, FLLPG simply “*assumed* that there would be no adverse impacts and the construction noise was not necessary to be analyzed.” *Id.* (emphasis added).

⁷² Summertime measurements in rural areas such as Reading can overstate ambient noise, moreover, unless the analyst corrects for night-time cicada noise, which the Applicant failed to do. *See* Sandstone Report at 12.

That assumption was unfounded. There is no record evidence that heavy industrial projects of a size and duration similar to those of the LPG storage facility are “typical” of construction activities in the Seneca Lake community. *Id.* at 2. Even if they were, Project construction noise still would require evaluation, because there is no bar on 24-hour Project construction, which could be very disruptive for residents or tourists sleeping with open windows. Moreover, the Applicant is wrong in claiming that “[t]here are no receptors requiring quiet conditions, such as a school or church near the project site,” *id.* at 2, because there would be private residences and recreation areas within clear earshot of Project construction noise, including off-site traffic noise.⁷³

The fact that construction is temporary does not relieve the Applicant of the obligation to consider potentially significant noise impacts. Even the incomplete schedule included in the Storm Water Pollution Prevention Plan (“SWPPP”) projects that construction will require eight months, during which constant noise from diesel equipment and sudden loud noises, such as back-up beepers, are likely to be very annoying—especially in a residential or recreational context. *See* Noise Policy at 2 (explaining the import of surrounding land uses). Finally, *all* construction is temporary, but construction noise specifically is addressed in DEC guidance, *see* Noise Policy at 3, 6, 16-18, 23–25, and routinely is included in EISs, *see, e.g.*, RDSGEIS at 6-291; ENSR Intl., *Community Sound Survey and Construction Noise Impact Assessment* (2002) (in Bellayre DEIS, App. AG).

Having failed to justify the omission of construction noise from its noise analysis, FLLPG should be directed to cure the problem and to release a new analysis for public comment prior to the adjudicatory hearing. The new noise analysis should describe all equipment that will

⁷³ Federal Highway Administration traffic noise abatement criteria establish the same standards for the following categories of receptors: residences, active sport areas, campgrounds, parks, places of worship, playgrounds, and recreation areas. *See* 23 C.F.R. § 772, Table 1.

be used during construction (including numbers of, and noise specifications for, each piece of equipment) and a complete schedule of construction, neither of which is in the SWPPP, as the Applicant claimed. It also should provide a map of all facilities to be built, including the pipeline; a clear description of all major activities (including earth moving, grading, compacting, import of fill, and delivery and removal of materials and waste); and fully characterize all construction-related traffic. Without that information, DEC cannot determine what noise impacts construction will have, which impacts will be significant, or whether any of the significant impacts can be mitigated.

iii. The Applicant Understated Operational Impacts, Especially from Rail and Truck Noise.

The failure to provide reliable baseline measurements in the small area that was studied, coupled with the failure to delineate a region of influence that reflects both off-site sources of noise and sensitive receptors across Seneca Lake, inevitably resulted in a noise analysis that understated the Project's likely operational impacts. Although the Applicant corrected the miscalculations of train noise flagged by Sandstone, *see* Hunt Mem. at 2, the new calculations compare "Revised Train Leq" with daytime "Ambient Leq," which is higher than night-time baseline noise, *see* DSEIS App. I (Hunt, Sound Study, App. B, Table 2 (rev. May 2011)), and thus understates potential rail noise impacts. Moreover, the night-time baseline noise level must be reduced further to correct for cicada noise, measurements taken too early in the evening, and the inappropriate use of the L_{eq} parameter. *See* Sandstone Report at 12. Once those further corrections are incorporated into predicted noise levels, there is likely to be much more than a 6 dBA increase at receptor five, a private residence in Reading. Moreover, because there are no permit conditions limiting the means of product transportation, the noise analysis should have considered a worst-case scenario whereby *all* of the LPG arrives and departs by truck or rail

(without the much quieter pipeline). Thus, even within the Applicant’s improperly confined study area, operational impacts have been understated and may be significant.

iv. The Noise Impacts Identified by Sandstone Will Be Significant.

The Department argues that the Project will not cause significant noise impacts on the west side of Seneca Lake, because even with the addition of noise from Arlington project, the “worst-case scenario” would produce a day-time noise increase at FLLPG receptor seven of only 7.9 dBA, and the cumulative SPL would reach only 50.3 dBA. *See* Tr. 422-24. There is nothing in the record to support this claim, made for the first time by DEC counsel at the issues conference, and the conclusion is almost certainly is predicated on a defective baseline noise analysis, as is explained above. Even if the calculation is correct, however, the significance of a 7.9 dBA increase—at a rural motel—should not be so lightly dismissed. *See* Noise Policy at 13-14 (“Sound pressure increases of more than 6 dB may require a closer analysis of impact potential depending on existing SPLs and the character of surrounding land use and receptors.”). Moreover, the Project-generated noise increases along Route 14 and the rail corridor, from currently authorized but completely unanalyzed night-time construction and industrial operations, will be significant and unmitigated.

DEC claims that Project impacts will not be significant on the east side of Seneca Lake because the Sandstone Report predicted noise levels of 33–44 dBA, which are consistent with noise levels in wilderness at the low end and “a [quiet], seemingly serene setting such as rural farmland” at the high end, Tr. 419—far below the 65 dBA “maximum recommended sound pressure level in a nonindustrial setting,” *id.* at 424 . This argument relies exclusively on absolute noise levels as a measure of significance, even though “[t]he goal for any permitted operation should be to minimize *increases* in sound pressure level above ambient levels at the

chosen point of sound reception.” Noise Policy at 13 (emphasis added). Normal background at Sandstone receptors A and B ranges from the mid- to high 20s dBA, so the Project-generated noise increase predicted by Sandstone at those locations would run from approximately 4 to 20 dBA. In addition, the Applicant admits that maximum on-site noise could be perceived as 51.9 dBA in Hector, and Sandstone measured noise from Reading with sound pressure levels as high as 53 dBA on the eastern shore, so the noise increase could reach almost to 30 dBA.

According to the Department: “SPL increases approaching 10 dB result in a perceived doubling of SPL. . . . An increase of 10 dB(A) deserves consideration of avoidance and mitigation measures in most cases.” Noise Policy at 14. In this case, where the unusual tranquility of Seneca Lake is an important part of what attracts both residents and tourists to the Finger Lakes wine country, it is ludicrous to suggest that a potential 20-30 dBA increase is insignificant and that no mitigation need be considered until the noise reaches industrial levels.

c. The Draft Permit Fails to Mitigate Significant Noise Impacts.

Finally, the Applicant and DEC claim that Sandstone’s analysis raises no adjudicable issues because the Project and the Draft Permit include mitigation measures that GFS ignores. *See* FLLPG Response at 39; Tr. 424. Because the DSEIS understates operational noise and ignores construction noise altogether, the noise mitigation incorporated into the Project is wholly inadequate. The proposed mitigation does not address truck or rail noise, *see* Tr. 416, and the touted permit condition merely requires post-construction monitoring within the unlawfully constrained region of influence used for the Applicant’s noise analysis. Potentially significant impacts occurring during construction or outside the current study area will be neither avoided nor mitigated. For this reason, too, the sufficiency of the Applicant’s noise analysis should be adjudicated both separately and as an element of the community character analysis.

E. The Project’s Significant Adverse Impact on Community Character Should Be Examined Directly in an Adjudicatory Hearing.

In its Petition for Full Party Status, GFS proffered scientifically grounded evidence demonstrating that the issue of community character impact should be adjudicated. Specifically, GFS submitted the expert reports of Dr. Harvey Flad, Dr. Susan Christopherson, and Sandstone.⁷⁴ Dr. Flad is a Professor Emeritus of Geography at Vassar College, with more than 40 years’ experience in the field.⁷⁵ He has published widely on diverse geographic subjects and is well versed in the methodology of cultural landscape study, which is a recognized approach to the characterization and preservation of communities and other valued places. *See, e.g.*, RDSGEIS, § 2.4.15 Community Character, at 2-172 (citing Emma-Jane Robinson, *A Sense of Place—a Model to Compare Places, Peoples and Their Relationships over Time—Salisbury Plain Revisited* (2006) (presented at the Forum UNESCO University and Heritage 10th International Seminar *Cultural Landscapes in the 21st Century* (2005))).⁷⁶ Dr. Flad has served as an historical, cultural landscape, and geographical consultant and has presented expert reports and testimony on the community character and aesthetic impacts of industrial facilities in proceedings before DEC, the Power Authority of the State of New York, and the U.S. Nuclear Regulatory Commission. His report for this proceeding, entitled *Community Character Analysis* (“Flad Report”), follows the standard multi-disciplinary approach of cultural landscape studies, by analyzing historic, environmental, cultural, social, and economic influences on people within the Seneca Lake area and Finger Lakes region, which over time shape the sense of place and

⁷⁴ The qualifications of Drs. Crossan and Neuman and the substance of their noise analysis are set forth above in section II.D.

⁷⁵ Dr. Flad’s *Curriculum Vitae* is attached as Exhibit A to his report, which is annexed as Exhibit 5 to the GFS Petition.

⁷⁶ For the subsections of the RDSGEIS describing existing community character and community character impacts, DEC’s consultant, Ecology and Environment Engineering, P.C., employed elements of cultural landscape study. DEC “adapted” [sic] each subsection “in its entirety.” DEC, RDSGEIS, §§ 2.4.15 Community Character, 6.12 Community Character Impacts, at 2-172 n.58, 6-316 n.141.

identity that is the core of community character. *See* Flad Report at 2; RDSGEIS at 2-173 (discussing sense of place).

Dr. Susan Christopherson is Professor and Chair of the Department of City and Regional Planning at Cornell University.⁷⁷ Her research focuses on economic policy, especially its spatial dimensions. She has published widely on the economic implications of energy development and specifically on economic development in the Finger Lakes region. Dr. Christopherson’s report, *Sources of Economic Development in the Finger Lakes Region: The Critical Importance of Tourism and Perceptions of Place* (“Christopherson Report”), discusses the regional economic development trajectory reflected in the cultural landscape study developed by Dr. Flad.

Although “purely economic impacts are not adjudicable,” *Matter of St. Lawrence Cement*, Initial Rulings of the ALJs on Party Status and Issues, 2001 WL 1587361, *109 (DEC, Dec. 7, 2001), socio-economic impacts *may* be adjudicated when they are related to adjudicable environmental impacts, including impacts on community character, *see Matter of Sithe/Independence Power Partners, L.P.*, Interim Decision, 1992 WL 406387, *3 (DEC, Nov. 9, 1992). Nevertheless, GFS does not seek separate adjudication of the socio-economic issues analyzed by Dr.

Christopherson.⁷⁸

The reports and proffered expert testimony from Dr. Flad, Dr. Christopherson, and Sandstone, all of which is based on methodologically sound empirical study and published literature in their respective fields, collectively provide a more than ample basis for adjudicating community character impacts. Specifically, the following contested sub-issues require resolution:

⁷⁷ An abbreviated version of Dr. Christopherson’s *Curriculum Vitae* is attached as Appendix B to her report, which is annexed as Exhibit 6 to the GFS Petition.

⁷⁸ The Applicant’s insistence that economic impacts are not adjudicable, *see* FLLPG Response at 11, 14, is thus both wrong and beside the point.

- What methodology is best suited for the community character analysis in this proceeding and what elements of community character should be examined?
- What is the appropriate region of influence for the community character analysis?
- What is the existing character of the community, so defined?
- What is the magnitude of the Project impact on existing community character, especially considered cumulatively with other industrial development on the Seneca Lake shoreline?

The petitioners' offer of proof with respect to these sub-issues demonstrates that the Project's impact on community character is an adjudicable issue.

1. GFS's Offer of Proof Establishes That Community Character Is a Substantive and Significant Issue.

The Project's impact on the character of the Seneca Lake community and wider Finger Lakes region is a substantive and significant issue within the meaning of the Department's rules. *See* 6 NYCRR § 624.4(c)(2)–(3). The *only* community character analysis currently in the record is the Flad Report proffered by GFS and its allied petitioners, and that analysis concludes that approval of the Project would have significant adverse community character impacts that cannot be mitigated by any permit conditions.⁷⁹ *See* Flad Report at 39–40. The current evidence thus establishes that the no action alternative (which also was omitted from the DSEIS and therefore should be analyzed in a revised draft) will have fewer adverse community character impacts than construction and operation of the Project, calling into question DEC's ability to certify that, consistent with social, economic and other essential considerations, granting FLLPG's

⁷⁹ As is noted above, the DSEIS has no discussion of community character. For the issues conference, the Applicant submitted a report by Camoin Associates entitled *Economic and Fiscal Impacts of the Finger Lakes LPG Storage Project* ("Camoin Report"), which purports to quantify impacts on the economy of Schuyler County and on municipal revenues and expenses. *See* Camoin Report at ii. The Camoin Report presents a critique of the Christopherson Report but does not even mention the Flad Report. Nor does the Camoin Report integrate its economic and fiscal impact analysis into a cultural landscape study (or any other recognized methodology) that can be used to identify the existing character of the Seneca Lake community or the Project's community character impacts. Moreover, the Camoin Report examines economic and fiscal impacts only on Schuyler County and two municipalities within the County, although the Seneca Lake community and Finger Lakes region extend well beyond that narrow geographical scope. For all of these reasons, the Camoin Report cannot be regarded as an analysis of community character impacts.

application will avoid or minimize adverse environmental effects to the maximum extent practicable. *See* ECL § 8-0109(8); 6 NYCRR § 617.11(d)(5). Under those circumstances, “there is sufficient doubt about the applicant’s ability to meet statutory or regulatory criteria applicable to the project, such that a reasonable person would require further inquiry,” and the issue of community character impacts therefore is substantive. 6 NYCRR §§ 624.4(c)(2), 624.4(c)(6)(i)(b).

The issue of community character impacts also is significant. The potentially significant and unmitigatable adverse impacts on community character identified by Dr. Flad, *see* Flad Report at 34–39, could—and should—result in DEC’s denial of an underground storage permit for the Project. *See Lane Constr.*, 270 A.D.2d at 610 (affirming denial of a quarry permit where the Deputy Commissioner ruled that “the project’s impacts on the historic and scenic character of the community including visual and other impacts on the community cannot be sufficiently mitigated”). The impacts of LPG storage also could be grounds for a major modification of the Project (such as withdrawal of the proposal to store butane, which requires rail transport, or elimination of the proposed truck depot, either of which would reduce the industrial scale of the facility as well as its noise impacts). The significant adverse impact on community character therefore “has the potential to result in the denial of a permit [or] a major modification to the proposed project,” qualifying the issue as significant. 6 NYCRR § 624.4(c)(3). Because the issue of community character impacts proposed by GFS is both substantial and significant, the issue is adjudicable. *Id.* § 624.4(c)(1)(iii).

2. The ALJ Should Reject the Applicant’s Attempts to Avoid Adjudication of Community Character Impacts.

The Applicant presents three principal responses to GFS’s argument that the impact on community character is a substantive and significant issue requiring adjudication. First, FLLPG

contends that the issue is *per se* not adjudicable. *See* Tr. 46; FLLPG Response at 5–6. Second, if the adjudication of community character impacts cannot be excluded from consideration, the Applicant argues that prior EISs and the DSEIS provide an adequate basis for evaluation of those effects. Tr. 50–51. Third, if that record is found to be inadequate—which it assuredly is—the Applicant contends that GFS’s offer of proof nevertheless is inadequate to raise a substantive and significant issue about community character impacts. *See* FLLPG Response at 6–15. None of those arguments has merit.⁸⁰

a. The Impact on Community Character Is Subject to Adjudication as an Independent Issue.

The Legislature expressly included community character in SEQRA’s broad definition of “environment,” ECL § 8-0105(7), and there is nothing in the statute to suggest that community character should be treated differently under DEC’s rules from the other listed areas of environmental concern. In particular, there is no basis in the statute for concluding that a factual dispute about impacts on community character—alone among the conditions listed by the Legislature—may never be resolved at an adjudicatory hearing. Rather, every disputed issue of fact is adjudicable if it is both substantive and significant, *see* 6 NYCRR § 624.4(c)(1)(iii), and the Project’s effect on community character is both.

The Applicant has no support for its contention that “community character cannot be an adjudicable issue as a matter of law.” Tr. 46; *see* FLLPG Response at 5–6 (filed Feb. 9, 2015). When pressed by the ALJ, the Applicant’s counsel admitted: “I don’t have a case” that supports the “absolute” claim that the issue could “never” be adjudicated. Tr. 54. To the contrary, “New York courts recognize that the concept [of community character] maintains its own meaning and

⁸⁰ The Applicant also maintains that, even if disputed facts about community character are subject to adjudication, they may not be adjudicated with respect to FLLPG’s permit application, because the decision about “what was to be addressed” in this proceeding “was made in the scoping process.” Tr. 47. That argument already has been disposed of above, *see supra* at Section I(A), and we will not repeat the rebuttal here.

identity in terms of environmental review.” *Matter of Palumbo Block Co.*, Interim Decision of the Commissioner, 2001 WL 651613, *2 (DEC, Jun. 4, 2001) (including community character in an adjudicatory hearing); *see also Matter of Cobleskill Stone Prods., Inc.*, Ruling on Issues and Party Status, DEC Project No. 4-4342-0001/00019 (DEC, July 23, 2008), <http://www.dec.ny.gov/hearings/45420.html> (“The community character issue will be adjudicated”); *Matter of Besicorp-Empire Dev. Co., LLC*, Decision of the Commissioner, 2004 WL 2132941, *2 (DEC, Sept. 23, 2004) (issuing decision after adjudication of community character impacts); *Matter of WHIBCO, Inc.*, Interim Decision, 1998 WL 389014, *3 (DEC, Jun. 15, 1998) (allowing adjudication of community character/cultural resources); *Sithe/Independence Power Partners*, 1992 WL 406387, at *3 (recognizing not only that community character impacts could “warrant adjudication” but also that adjudicable community character impacts could support adjudication of related socio-economic impacts—an area not included in SEQRA’s definition of “environment”).⁸¹

None of the three decisions cited by FLLPG supports the Applicant’s extreme position. *See Matter of Red Wing Prop., Inc.*, Interim Decision of the Commissioner, 2010 WL 3366172 (DEC, May 19, 2010); *Crossroads Ventures*, 2006 WL 3873403; *St. Lawrence Cement Co, LLC*, Second Interim Decision of the Commissioner, 2004 WL 2026420 (DEC, Sept. 8, 2004). In those proceedings, the Commissioner or his delegate found no need to adjudicate community character impacts separately either because the record already was sufficient, *see Crossroads Ventures*, 2006 WL 3873403, at *27 (stating that the existing record contained adequate information), *St. Lawrence Cement*, 2004 WL 2026420, at *50-51 (finding that the DEIS considered “the factual background that [the petitioner] seeks to develop concerning the

⁸¹ The Commissioner in *Sithe* found that the allegations of community character impacts in that proceeding “[did] not meet the substantive test and would not warrant adjudication,” 1992 WL 406387, at *3, but that conclusion presupposes that community character *is* adjudicable, as long as the offer of proof is adequate.

characteristics of the community”—namely, community “values and trends”), or because “the record on community character [could] be further developed through an adjudicatory hearing on . . . other [intertwined] impacts,” *see Red Wing*, 2010 WL 3366172, at *6. None of the decisions held that the issue of community character *could not be* the subject of an adjudicatory hearing, even when—as is the case in this proceeding—the existing record is insufficient, and adjudication of other issues will not resolve the parties’ dispute.⁸²

b. Prior EISs and the DSEIS Do Not Provide an Adequate Record for Evaluation of Community Character Impacts.

The Applicant contends that even if community character can be separately adjudicated, the issue should not be adjudicated in this proceeding because “petitioners’ community character arguments are entirely based on other environmental issues—visual, traffic, noise, and safety impacts—that are comprehensively and adequately analyzed in the DSEIS” and related studies. FLLPG Response at 6. The Applicant also suggests that “all of the EISs going back to 1988, 1992” resolve the issue of community character impacts. Tr. 50. Neither of those arguments stands up to scrutiny.

For two reasons, it is untrue that the petitioners’ community character analysis can be reduced to issues adequately analyzed in the DSEIS. First, like impacts that are cumulatively significant, although no individual impact rises to that level, the impact on community character is more than the sum of its parts. Dr. Flad explains his methodology as follows:

⁸² Likewise, there is no basis for the Applicant’s claim that the decisions in *Palumbo Block Co.* and *WHIBCO* have been superseded by the three decisions cited by FLLPG. *See* FLLPG Response at 6 n.2. Both *Palumbo Block Co.* and *WHIBCO* expressly recognize the relationship between community character and other areas of environmental concern, but the facts in those cases nevertheless supported separate adjudication. *See Palumbo Block Co.*, 2001 WL 651613, at *3 (acknowledging that the final decision following adjudication will require “a judgment that integrates all of the relevant facts with respect to [other] issues”) (quoting *WHIBCO*, 1998 WL 389014, at *3 (allowing adjudication even though community character issues “tend to overlap” with other areas of environmental concern)).

This analysis of impacts has teased apart nine elements of the Finger Lakes cultural landscape that collectively emerge as community character: (1) scenic views and aesthetic resources; (2) historic sites and districts; (3) scenic roads and transportation corridors; (4) open space; (5) American Viticulture Areas; (6) wine tourism; (7) agricultural tourism; (8) Recreation; and (9) comprehensive planning by local governments. The community character of the Finger Lakes Region and Seneca Lake cannot be reduced to these elements, however, but is in fact greater than their sum—the product of their interaction over time with the people who are tied to the place. Community character joins space and time, weaving together social, cultural, environmental, and economic history, to define what the community means to its members. Even moderate impacts on the elements of the cultural landscape could have a significant impact on community character.

Flad Report at 39.

Second, even if the ALJ were inclined to adopt a reductionist approach, it would be inappropriate to do so in this proceeding. The impacts on the character of the Seneca Lake community cannot be reduced to the visual, traffic, noise, and safety impacts addressed in the DSEIS. *See Palumbo Block Co.*, 2001 WL 651613, at *2 (“[P]arsing out community character by addressing only potential visual and noise impacts unduly excludes a thorough review of the proposed mine impacts on the community setting.”). The DSEIS fails to define the region of influence for community character analysis and leaves out issues that are crucial to understanding Seneca Lake community values and trends—including historic sites and districts, recreational uses, official local and regional plans, and socio-economic development over time.⁸³ Those issues were omitted from the DSEIS even though they have been part of community

⁸³ For the issues conference, the Applicant submitted the Camoin Report to address fiscal and economic issues left out of the DSEIS and raised by the Christopherson Report. As is noted above, GFS proffered the report and Dr. Christopherson’s testimony to support Dr. Flad’s community character analysis but did not propose to have economic issues adjudicated separately. On the merits, the Applicant misrepresents Dr. Christopherson’s position on relevant trends in the region—neither she nor GFS suggests either that industrial activity has disappeared or that “no industrial activity of any kind should be permitted in the region.” FLLPG Response at 14. The Camoin Report’s simplistic, static, and geographically limited input-output model also ignores Dr. Christopherson’s discussion of the crucial role of regional branding on the economic trajectory of the industries that the Finger Lakes community actively is seeking to develop.

character analyses in EISs for other projects. *See, e.g., St. Lawrence Cement*, 2004 WL 2026420, at *34 (noting that the DEIS “recognize[d] the region as a significant resource for tourism and recreation”), *49 (“[L]ocal land use plans are not the only evidence of community character, where, as here, a project may have impacts on resources with recognized designated historic and cultural importance”).⁸⁴ Moreover, the petitioners in this proceeding have not asked for separate adjudication of those issues, so they will not be adequately developed without an adjudicatory hearing on community character impacts. Because all of those issues must be considered in any reasonable assessment of effects on the Seneca Lake community and Finger Lakes region—and all of them are considered in the Flad Report—the dispute over community character impacts can and should be adjudicated.

The more than 20-year-old EISs to which the Applicant referred at the issues conference are the draft (1988) and final (1992) versions of the Generic Environmental Impact Statement on the Oil, Gas and Solution Mining Regulatory Program (“GEIS”), which is being supplemented for the Project. Like the DSEIS, the underlying GEIS does not discuss community character. Moreover, the GEIS discusses environmental impacts generically with reference to the entire state. It offers no regional or community-specific analysis of any issues, including those that would be integrated into a cultural landscape study—historic resources, visual resources, noise, land use, and socio-economic impacts. To argue that the GEIS adequately defines the character of the Seneca Lake community or Finger Lakes wine country is absurd. Because neither the GEIS nor the DSEIS supplies an adequate record on community character impacts, the issue of community character impact should be adjudicated.

⁸⁴ *See also Wal-Mart*, 238 A.D.2d at 98 (recognizing that economic effects may be examined in the context of assessing community character); *Matter of Lane Constr. Co.*, Interim Issues Rulings, 1996 WL 33140733, *13–14 (DEC, Feb. 22, 1996) (noting that the impact on recreational resources, which was an element of alleged community character impacts, was an adjudicable issue).

c. GFS's Offer of Proof Withstands the Applicant's Critique.

The Applicant insists that GFS's offer of proof lacks a factual foundation and therefore does not support adjudication of community character impacts. *See* FLLPG Response at 6–7. The critique appears to reflect ignorance of what geographers do and the methodology they use to characterize a community's sense of place. In fact, cultural landscape study is a widely recognized methodology, and geographers are ideally suited to analyze community character impacts. The Flad Report represents the only effort to characterize those impacts—which are distinct from, although related to, other environmental and socio-economic impacts—and Dr. Flad's analysis demonstrates that there are substantial and significant community character issues that require adjudication.

As is evident from the literature cited by Dr. Flad, cultural landscape study has been used for decades as a methodology for discerning the distinctive character of special places and thus satisfies the standard for reliability under *People v. Wesley*, 83 N.Y.2d 417 (1994). *See* Flad Report at 3 n.3 (citing sources dating back to 1979). Governmental agencies and their consultants use it for purposes of environmental analysis, planning, and preservation. For example, the State of Hawaii employs cultural landscape study in its environmental review process. *See, e.g.*, Hawaii Dep't of Land & Natural Resources, Final Environmental Impact Statement for the Thirty Meter Telescope Project, Island of Hawai'i, Appendix D, § 8 Cultural Landscape of Maunakea (2010), <http://dlnr.hawaii.gov/occl/files/2013/08/2010-05-08-HA-FEIS-Thirty-Meter-Telescope-Vol3.pdf>. The National Park Service ("NPS") characterizes cultural landscapes to develop the factual basis for its land management efforts. *See, e.g.*, NPS, *Guidelines for the Treatment of Cultural Landscapes*, <http://www.nps.gov/tps/standards/four-treatments/landscape-guidelines/>. Cultural landscape studies "may include information spanning numerous disciplines in order to evaluate a landscape's historical, architectural, archeological,

ethnographic, horticultural, landscape architectural, and engineering features, along with ecological processes and natural systems.” Robert R. Page *et al.*, NPS, *A Guide to Cultural Landscape Reports: Contents, Process, and Techniques* 4–5 (1998), http://www.nps.gov/cultural_landscapes/Documents/Guide_t0_Cultural_Landscapes.pdf.

Because neither the DSEIS nor any other document identified by DEC or the Applicant so much as attempts to characterize the existing community character around Seneca Lake and in the Finger Lakes region—as is necessary to develop a baseline for analysis of the Project’s community character impacts—Dr. Flad undertook his own cultural landscape study to provide the basis for such an account. As is typical of cultural landscape studies, the Flad Report offered a multi-disciplinary examination of “natural physical features, history, demographics and socioeconomics, and culture (Robinson 2005),” which collectively define a community’s character. RDSGEIS at 2-172. In developing his account of community character, Dr. Flad also considered other elements that are involved in a sense of place, including “regional and local planning, population density, transportation and access, and services and amenities.” *Id.* at 2-173; *see* American Planning Association, *Community Character*, <https://www.planning.org/research/arts/briefingpapers/character.htm> (noting that a sense of place rests on understanding of “physical and natural resources; cultural history; climate; customs; landscape features” and other community characteristics).

As a geographer, Dr. Flad is ideally suited to conduct cultural landscape studies and to develop accounts of community character because he has been trained to analyze the physical and human characteristics of defined spaces and to understand the relationship between societies and places. As the U.S. Bureau of Labor Statistics explains: “Geographers study the earth and its land, features, and inhabitants. They also examine phenomena such as political or cultural

structures as they relate to geography. They study the physical and human geographic characteristics of a region, ranging in scale from local to global.”⁸⁵ The Association of American Geographers, formed in 1904, puts it this way:

Geography is the science of place and space. Geographers ask where things are located on the surface of the earth, why they are located where they are, how places differ from one another, and how people interact with the environment. Geography is unique in linking the social sciences and natural sciences together. Geographers also study the relationships between human activity and natural systems.

Assn. of Am. Geographers, *What Geographers Do*, http://www.aag.org/cs/jobs_and_careers/what_geographers_do/overview. The geographer’s inherently interdisciplinary profession provides the scope of training necessary to conduct the multi-disciplinary cultural landscape analyses that provide a window into a community’s sense of place. Thus, although Dr. Flad is not a traffic or noise engineer, he has considerable expertise and experience in identifying different cultural landscapes and in assessing how traffic and noise impacts on those landscapes affect community character.⁸⁶ Indeed, Dr. Flad has the training necessary to opine on community character that no traffic or noise engineer—or any other narrowly specialized professional—would have.

Using that training, expertise, and experience, Dr. Flad developed a cultural landscape study based on “a wide array of relevant documents and websites—including, academic books and articles, marketing materials, municipal government publications and resolutions, and press

⁸⁵ Bur. of Labor Statistics, U.S. Dep’t of Labor, *Occupational Outlook Handbook, 2014-2015 Edition*, Geographers, at <http://www.bls.gov/ooh/life-physical-and-social-science/geographers.htm>.

⁸⁶ The Applicant complains that Dr. Flad “makes no attempt to employ the techniques established in the Department’s guidance documents for assessing visual or noise impacts.” FLLPG Response at 7. Dr. Flad was not retained to prepare a visual impact or noise assessment; he was asked to evaluate how those Project impacts (and others) would affect community character. Because the same changes in aesthetics or noise (or other conditions) affect different communities differently, depending on their sense of place, Dr. Flad’s task was to describe the fit between the Seneca Lake community’s existing character and what will be seen and heard (or otherwise experienced) during Project construction and operation.

reports—all of which illuminate the history and self-image of the Finger Lakes and Seneca Lake communities and their core character.” Flad Report at 2. Based on his review and analysis of those diverse sources, as well as personal interviews with leading community members, Dr. Flad concluded that “the role of natural beauty and an agricultural landscape, including a viticultural landscape, are central to the Finger Lakes region’s sense of place over time and to the branding of the emerging tourism economy.”⁸⁷ *Id.* at 4; *see also id.* at 2 (“[T]he character of the Seneca Lake community and the wider regional community is based in deeply felt connections to the region’s natural beauty and the pace of small-town rural life.”). Dr. Flad then explains that the industrialization represented by the Project—with its adverse aesthetic, traffic, noise, and economic impacts—is at odds with the cultural landscape of the Finger Lakes wine country and the counties surrounding Seneca Lake and therefore represents a significant adverse effect on community character that is not subject to mitigation.⁸⁸ *See id.* at 34–40.

The Flad Report is consistent with local and regional planning around Seneca Lake and in the Finger Lakes region.⁸⁹ *See* RDSGEIS at 2-173 (“Local and regional planning are important

⁸⁷ The Applicant contests this account, contending that existing community character is industrial. *See, e.g.*, Tr. 50 (claiming that underground gas storage “is basically what exists in the community”). FLLPG also argues that there is no need to consider the “burgeoning wine industry in the area” because the nearest vineyard or winery is “a mile away.” Tr. 58–59. Although the Castel Grisch winery is about a mile away, the Project site is within the viewshed of wineries on the eastern side of Seneca Lake. Moreover, the Seneca Lake Wine Trail runs down Route 14 past the Project site, so visitors to the region may be adversely affected by Project-induced rail and truck traffic and noise along the length of Seneca Lake, on both sides.

⁸⁸ DEC contests Dr. Flad’s assessment of visual impacts by noting that Hector Falls is not a receptor under Department guidance. *See* Tr. 79. Hector Falls and the Seneca Lake Scenic Byway are tourist destinations of statewide significance from which the Project site can be seen, *see* Flad Report at 34–35, and from which visual impacts should be assessed. GFS would welcome an opportunity to join the ALJ and the parties on a visit to those sites and others from which residents and wine country visitors will look down on Project facilities.

⁸⁹ The petitioners’ experts and other proffered witnesses will demonstrate that the appropriate area for community character analysis comprises at least the municipalities around the Seneca Lake and potentially the Finger Lakes region as a whole. *See* Flad Report at 3–4, 29–34; *cf.* RDSGEIS at 2-173 (defining three multi-county regions for community character analysis). The Applicant appears to contend that the region of influence for community character impacts extends no farther than Schuyler County. *See, e.g.*, Tr. 55–57 (focusing exclusively on planning by the Town of Reading and Schuyler County). The region of influence thus is a disputed factual issue requiring adjudication.

in defining a community’s character and long-term goals.”). More than 20 local governments have expressed formal opposition to the industrialization of Seneca Lake represented by hydrocarbon storage facilities, including both the Project and the expansion of the Arlington facility. *See* Flad Report at 31–32 (listing governments opposing the Project as of January 2015). Regional, county-wide, and local planning documents increasingly promote programs—especially waterfront revitalization strategies—that are incompatible with creeping lakeside industrialization. *See id.* at 33–34 (citing plans from the City of Geneva and the Village of Watkins Glen). Even Schuyler County and the Town of Reading recognize the importance of the lakefront to the community.⁹⁰ *See* Steinmetz Planning Group, *Schuyler County Countywide Comprehensive Plan (CWCP)*16 (2014) (“The primary drivers of the [Project Seneca] project include the protection and improvement of Seneca Lake/Chemung Canal water quality, job growth, stimulating tourism and waterfront revitalization.”); *Comprehensive Plan of the Town of Reading*, New York 1 (1991) (listing protecting Seneca Lake water quality and providing better access to the lake as “community goals”); Town of Reading Land Use Law § 4.10 (rev. 2009) (establishing the Seneca Lake Protection Area).⁹¹

In sum, contrary to the Applicant’s insinuation, Dr. Flad’s cultural landscape study and community character analysis are not “conclusory or speculative” or without a “factual foundation.” FLLPG Response at 6 (citing *Matter of Entergy Nuclear Indian Point 2, LLC and Entergy Nuclear Indian Point 3, LLC*, Interim Decision of the Assistant Commissioner, 2008

⁹⁰ Because the community character impacts of the Project extend beyond Schuyler County and the Town of Reading, the planning documents of those municipalities are relevant but not sufficient to an understanding of the character of the Seneca Lake community and Finger Lakes wine country. *See Village of Chestnut Ridge v. Town of Ramapo*, 45 A.D.3d 74, 94 (2d Dep’t 2007) (recognizing that development in one municipality “can have a significant detrimental impact on the character of [an adjoining] community”); *Wal-Mart*, 238 A.D.2d at 99 (affirming the agency’s analysis of community character impacts on “the Lake Placid region, a premier resort and tourist community”).

⁹¹ The ALJ may take judicial notice of these official governmental pronouncements. *See* N.Y. C.P.L.R. 4511.

WL 4693295, *31 (DEC, Aug. 13, 2008); *Matter Buffalo Crushed Stone, Inc.*, Decision of the Commissioner, 2008 WL 5955358, *4 (DEC, Nov. 17, 2008)). They are grounded in a thorough literature review, empirical research, and a well established methodology. In the most controversial and heavily scrutinized environmental review document in the New York's history—the RDSGEIS—DEC effectively recognized the legitimacy of the methodology employed by Dr. Flad. Neither the Applicant nor DEC has described a methodology better suited for determining community character in this proceeding, or a more plausible account of community character impacts using that methodology, although they could attempt to do either at an adjudicatory hearing. Because GFS's offer of proof survives the Applicant's criticisms, the substantive and significant issue of community character impact should be considered at an adjudicatory hearing.⁹²

III. The Petitions for *Amicus* Status in Support of the Applicant Should Be Denied.

Petitioners National Propane Gas Association, Propane Gas Association of New England, New York Propane Gas Association, and United Steel, Paper and Forestry, Rubber, Manufacturing, Energy, Allied Industrial and Service Workers International Union, AFL-CIO, CLC (collectively, the “Industry Petitioners”) cannot satisfy the standard for *amicus* status in this proceeding. Under that standard, petitioners for *amicus* status must identify an issue to be briefed that “meets the criteria of section 624.4(c)” of the Department's permit hearing regulations. 6 NYCRR § 624.5(b)(3)(i). Section 624.4(c) sets forth the criteria for adjudicable issues. The Industry Petitioners have not proposed to brief any issue identified for adjudication. No one has made an offer of proof designed to establish that the issues that the Industry Petitioners wish to brief are either substantive or significant under the criteria of section 624.4(c).

⁹² The Applicant includes a preemption argument in response to GFS's concerns about the risks associated with rail transport and pipeline transmission. See FLLPG Response at 9–10 (citing GFS Petition at 10, 12 (discussing public safety, not community character). That argument has been addressed above in Section II(B).

In the absence of any adjudicable issue that the Industry Petitioners might brief, their petitions for *amicus* party status should be denied.

CONCLUSION

For the reasons stated above, GFS's Petition for Full Party Status should be granted in its entirety.

Dated: New York, NY
April 17, 2015

Respectfully submitted,

EARTHJUSTICE

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New York State Department of Environmental Conservation

In the Matter of the Application of

FINGER LAKES LPG STORAGE, LLC

**Application Number
8-4432-00085**

**for a permit pursuant to the Environmental Conservation
Law to construct and operate a new underground liquid
petroleum gas storage facility in the Town of Reading,
Schuyler County**

**AFFIRMATION OF
SERVICE**

I, Deborah Goldberg, an attorney duly admitted to practice law before the courts of the State of New York, affirm under penalty of perjury:

I am a person over the age of eighteen and am lead counsel for Gas Free Seneca. On Friday, April 17, 2015, on or before 4:00 P.M., I served the confidential and public versions of the Post-Issues-Conference Closing Brief of Gas Free Seneca on the following individuals by electronic mail, and thereafter on the same day I caused hard copies to be mailed to counsel for the Applicant via First Class Mail.

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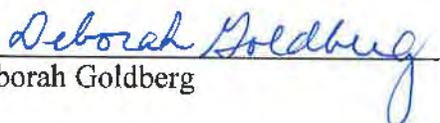
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