March 14, 2014

The Honorable Andrew M. Cuomo
Governor, State of New York
State Capitol
Albany, New York 12224

Dear Governor Cuomo:

The purpose of this letter is to urge you to support the approval of the proposed LPG Storage Facility near the town of Reading, New York. Your support of this storage facility, and the Department of Environmental Conservation’s approval of this critical energy infrastructure, will significantly improve the availability of propane used at winter heating fuel by New Yorkers.

With several weeks of winter remaining, New Yorkers have paid more than $100 million (or roughly $411 per household) more than they should for propane this winter. The fact is, the older-than-average temperatures this winter have exposed a fundamental delivery constraint that will almost certainly create repeated propane crises until we install more propane storage capacity locally.

Propane demand in New York far outstrips local supplies, and New Yorkers are highly dependent on propane shipments from outside the state. TEPPCO historically supplied a substantial part of New York’s propane needs from the Gulf Coast, but its recent reversal of part of its pipeline (to transport ethane to the Gulf Coast from the Marcellus-Utica Shale regions) has reduced TEPPCO’s capacity to delivery propane to New York. At the same time, producers are exporting more propane due to higher prices abroad, which reduces New Yorkers’ ability to rely on imports to help make up the propane shortfall. This resulted in New Yorkers paying far higher distribution costs to obtain propane than they would have paid if the Finger Lakes storage facility had been available to offset the delivery shortfall.
More than 300,000 New Yorkers, mostly in rural parts of Upstate New York, use propane to heat their homes. An increasing number of residents are also converting to the clean-burning fuel as an alternative fuel of choice. We need to be able to store adequate supplies of propane reasonably close to serve both historical and new propane customers.

I am Paul Depew and my company Depew Energy is a member of the New York State Propane Gas Association. Our state association and its members have been explaining for more than four years how the Finger Lakes storage project will prove much-needed reliability and help consumers pay less for propane supplies. We're talking about a project that would not only protect consumer, but a storage facility whose integrity and safety attributes were endorsed by the State Geologist a year ago and that could be placed quickly into service once approved. In short, your leadership in modernizing New Yorker's energy policy - through approval of the Finger Lakes propane storage facility - will help hundreds of thousands of New Yorkers.

Sincerely,

Paul Depew

CC:

Commissioner Joseph Martens
New York Department of Environmental Conservation
625 Broadway
Albany, NY 12233-1010
March 5, 2014

Commissioner Joseph Martens
New York State Department of Environmental Conservation
625 Broadway
Albany, New York 12233-1011

Commissioner Martens:

I am the owner of DiSanto Propane, an important independent propane gas retailer in New York State. I am writing in regard to the proposed Finger Lakes storage facility in Reading, NY.

My family has been supplying propane to Upstate NY homes and businesses since 1937. Unfortunately New York does not create its own supply, so propane must travel a long distance to get here from Texas, the Midwest, and Canada. This winter, plunging temperatures and record demand have exposed the vulnerabilities of our State propane system. Without resilient infrastructure, supply constraints have caused prices to spike 40%, costing New York households more than $377 in additional energy costs. Incidentally the overall winter temperatures for Western NY are not significantly below (less than 5%) the expected – 10 yr avg. – winter temperatures. That shows how vulnerable we are to supply/demand fluctuations and that shortages will happen again.

The creation of more safe storage infrastructure like Finger Lakes LPG Storage facility would have nearly eliminated this $84 million negative economic impact on New Yorkers. The Finger Lakes project has been awaiting approval from New York Department of Environmental Conservation (DEC) for more than four years.
Governor Cuomo and the DEC have an opportunity to show leadership on an issue that is affecting the entire nation and causing economic harm to hundreds of thousands of their constituents. New Yorkers cannot afford for their state government to delay any longer.

One of the most important constraints to attracting new business and/or expanding existing businesses is high energy costs. Supporting infrastructure improvements would allow NY to attract the type of manufacturing jobs that would strengthen the State with long term growth.

Thank you,

Alex DiSanto
Owner
Disanto Propane
Clyde, NY 14433

C: Mr. M Nozzillo
   Mr. R. Oaks
The Honorable Andrew M. Cuomo  
Governor of New York State  
NYS State Capitol Building  
Albany, NY 12224

Commissioner Joseph Martens  
NYS Department of Environmental Conservation  
625 Broadway  
Albany, NY 12233

April 17, 2014

Dear Governor Cuomo and DEC Commissioner Martens:

As a propane retailer who relies on there being enough propane to keep my customer warm during the winter months, I urge you to approve the construction of the Finger Lakes Propane Storage Project.

As the 2013/2014 winter season greatly demonstrated, our regional propane infrastructure is struggling to keep up with demand. We are in urgent need of additional propane storage like the Finger Lakes Propane Storage project in Reading, NY. As you are well aware, approval of this project will create a strategic propane reserve which will improve product resiliency against extreme weather and protect my customers from sudden spikes in energy costs.

Without action from New York State, propane users across the entire Northeast will face more winter supply constraints and price volatility. It’s dangerous to public health, safety, and our economy, and my ability to serve my community.

This is a concern for the entire Northeast region—not just New York. Now is the time for you to take action and show leadership by approving the Finger Lakes Propane Storage Project. The economic outlook of our entire region depends on you!

Governor Cuomo and Commissioner Martens, the Finger Lakes Propane Storage Project is a safe and proven shovel-ready solution. Approve it now and save propane customer like mine from another costly and dangerous winter.

Sincerely,

Dave Water, Branch Manager  
Heller’s Gas, Inc.  
200 Ziegler Road  
Lewisburg, PA 17837

"For All Of Your Propane Needs"
July 13, 2010

Honorable Alexander B. Grannis
Commissioner
New York State Department of Environmental Conservation
625 Broadway
Albany, NY 12233-7012

Re: Finger Lakes LPG Storage Project

Dear Commissioner Grannis:

My husband and I own and operate a small propane company located in Florida, New York, which is in Orange County. We normally get our propane from the TEPPCO pipeline at Selkirk, New York or from the refineries in northern New Jersey.

Due to the limitations of the pipeline and the lack of storage for propane in the Northeast, we regularly experience Winter shortages of propane. Two years ago we had to send trucks as far as Toddhunter, Ohio to get our propane. This raises our costs which in turn raises prices for consumers.

Since propane is a clean and green alternative fuel, it makes sense for the DEC to promote it and do everything it can to make it readily available to consumers in the Northeast.

Therefore, I'm asking you to quickly approve the Finger Lakes LPG Storage Project at Watkins Glen. This will provide additional needed storage for the Northeast and assure us of continued supply during the coldest weeks of the Winter.

Thank you for your consideration of this request.

Yours truly,

Nancy Koeller
V.P. Finance

Yankee Propane, Inc.
September 3, 2014

The Honorable Andrew M. Cuomo
Governor, State of New York
State Capitol
Albany, New York 12224

Dear Governor Cuomo:

MX Petroleum Corp. has been distributing propane in Northern New York for more than 5 years. I am writing to urge you to support the approval of Crestwood’s proposed Finger Lakes LPG Storage Facility near the town of Reading, New York. Your support of this critical energy infrastructure will significantly improve the availability of propane used as a winter heating fuel by New Yorkers.

Locally owned and operated propane distributors rely on local storage facilities to supply our customers with the propane during the high-demand winter season. Propane has historically been moved into local storage terminals during summer months by TEPPCO’s pipeline, and these stored volumes were adequate to satisfy local demand during peak winter months. However, with recent market changes and greater propane exports, the amount of propane stored locally has not been sufficient to satisfy our customers’ needs over the past few winters.

This past winter alone, our state industry association estimates that New Yorkers paid more than $100 million more than they should have to obtain propane supplies from far away locations. We are not talking about higher propane costs, but higher costs to transport propane to our market from far away sources by more expensive delivery options (truck, rail and ship). These higher transportation costs could have been avoided if we had more supply available from local storage facilities. The fact is, the colder-than-average temperatures this winter exposed a fundamental delivery constraint that will likely repeat itself (to the detriment of mainly rural propane consumers) until we install more propane storage capacity locally.

More than 300,000 New Yorkers, mainly in rural parts of Upstate New York, continue to heat their homes with propane. For example, propane remains the primary home heating fuel in Schuyler County. An increasing number of businesses and residents are also using this clean-burning fuel as an alternative fuel of choice in other areas, such as lawnmowers. We need to be able to store adequate supplies of propane close to our propane customers.

The New York Propane Gas Association has for years worked to help people understand how the Finger Lakes storage project will prove much-needed reliability and help consumers pay less for propane supplies. We should not be forced to watch our customers pay more than necessary each winter we have a safe, shovel ready solution at our disposal.

We need your leadership to make the Finger Lakes LPG storage facility a reality. I am asking for your on a project that will help local communities and hundreds of thousands of New Yorkers.

Sincerely,

John Baird
Vice President

cc: Commissioner Joseph Martens (New York Department of Environmental Conservation)
September 3, 2014

The Honorable Andrew M. Cuomo
Governor, State of New York
State Capitol
Albany, New York 12224

Dear Governor Cuomo:

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We need your leadership to make the Finger Lakes LPG storage facility a reality. I am asking for your on a project that will help local communities and hundreds of thousands of New Yorkers.

Sincerely,

[Signature]

Albert McCoy
Blue Light Energy LLC

cc: Commissioner Joseph Martens (New York Department of Environmental Conservation)
September 5, 2014

The Honorable Andrew M. Cuomo
Governor, State of New York
State Capitol Building
Albany, New York 12224

Dear Governor Cuomo:

My company has been distributing propane on eastern Long Island for more than 7 years. I am writing to urge you to support the approval of Crestwood’s proposed Finger Lakes LPG Storage Facility near the town of Reading, New York. Your support of this critical energy infrastructure will significantly improve the availability of propane used as a winter heating fuel by New Yorkers.

Locally owned and operated propane distributors rely on local storage facilities to supply our customers with the propane during the high-demand winter season. Propane has historically been moved into local storage terminals during summer months by TEPPCO’s pipeline, and these stored volumes were adequate to satisfy local demand during peak winter months. However, with recent market changes and greater propane exports, the amount of propane stored locally has not been sufficient to satisfy our customers’ needs over the past few winters.

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The New York Propane Gas Association has for years worked to help people understand how the Finger Lakes storage project will prove much-needed reliability and help consumers pay less for propane supplies. We should not be forced to watch our customers pay more than necessary each winter we have a safe, shovel ready solution at our disposal.

We need your leadership to make the Finger Lakes LPG storage facility a reality. I am asking for your support on a project that will help local communities and hundreds of thousands of New Yorkers.

Sincerely,

John Tortorella, President
J. Tortorella Heating & Gas Specialists

cc: Commissioner Joseph Martens (New York Department of Environmental Conservation)
May 8, 2014

The Permit Administrator for Region 8 of the
New York State Department of Environmental Conversation
6274 East Avon-Lima Road
Avon, NY 14414

Re: Resolution #31 – 2014, City of Geneva Opposition to the Proposed “Seneca Lake Gas Storage Project” Located at the Seneca Lake Watershed

Dear Administrator:

Enclosed is a certified copy of Resolution #31 – 2014, City of Geneva Opposition to the Proposed “Seneca Lake Gas Storage Project” Located at the Seneca Lake Watershed. This resolution was unanimously adopted at a Regular Meeting of the Geneva City Council held on May 7, 2014.

If you have any questions, please do not hesitate to contact me.

Sincerely,

Doris Myers
City Clerk

enc. (1)
RESOLUTION #31 – 2014
CITY OF GENEVA OPPOSITION TO THE PROPOSED
"SENECA LAKE GAS STORAGE PROJECT" LOCATED AT THE SENECA LAKE WATERSHED

WHEREAS, The Town and City of Geneva contain more than nine miles of the total shoreline of Seneca Lake; and

WHEREAS, The City of Geneva recognizes the importance of Seneca Lake to the County, State and to the local community as a drinking water source, for recreation, as a natural habitat, and in supporting the thriving tourism economy of the Finger Lakes Region; and

WHEREAS, Inergy Corporation, Crestwood Midstream Partners LP, Arlington Gas Storage, LLC, Finger Lakes LPG Storage, LLC. (and all other associated affiliates) have proposed a large scale liquefied petroleum gas (LPG) and compressed natural gas storage facility adjacent to and beneath Seneca Lake (at the US Salt, LLC facility) known as the Seneca Lake Gas Storage Project (SLGSP); and

WHEREAS, Said project would involve compression and storage of LPG in caverns created by the solution mining of salt deposits below and adjacent to Seneca Lake, and movement and surface storage of salt water displaced from said caverns as LPG is pumped into and out of said caverns; and

WHEREAS, This Council is deeply concerned with the potential for dramatic and catastrophic environmental impacts from this project due to:

1. The uncertain geologic stability of SLGSP’s subterranean caverns, and the risk that said caverns could be compromised by even low level earthquakes that are common in this region of New York State.

2. The threat of discharge of large amounts of salt water from SLGSP’s surface storage facilities into Seneca Lake or its tributaries.

3. The threat of discharge of large amounts of salt water as they are moved between subterranean caverns and surface storage facilities during the course of operations.

4. The threat of LPG seepage from said subterranean caverns; and

WHEREAS, The City of Geneva processes approximately 700 million gallons of water for municipal water services per year of which approximately 35 million gallons/year (~5%) is for human consumption.

WHEREAS, the real risk of another catastrophic ceiling collapse in the US Salt facility (being used as a propone storage facility) could lead to significant contamination of Seneca Lake by raising the salinity of the lake water above a level at which it could be cost effectively treated by current water treatment facilities requiring replacement water supplies, and

WHEREAS, at approximately $1.25/gallon for bottled water, the annual replacement cost of Geneva’s potable water could be over $43 Millions/year, now and therefore be it
RESOLVED, The City Council of the City of Geneva opposes the SLGSP and respectfully requests that the New York State Department of Environmental Conservation withhold approval of any plan for mass storage and compression of natural gas near, adjacent to or under Seneca Lake and further

RESOLVED, That certified copies of this resolution be sent to The Honorable Andrew M. Cuomo, Governor of New York State, NYS State Capitol Building, Albany, NY 12224; Senator Michael Nozzolio, Assembly Minority Leader Brian Kolb, the Commissioner of the New York State Department of Environmental Conservation, Joseph Martens, Director, 625 Broadway, Albany, NY 12233-1011; the Permit Administrator for Region 8 of the New York State Department of Environmental Conservation, 6274 East Avon-Lima Road, Avon, NY 14414; Seneca County Board of Supervisors, Seneca County Office Building, 1 DiPronio Drive, Waterloo, NY 13165; Schuyler County Legislature, 105 Ninth Street, Unit 6, Watkins Glen, NY 14891; and Yates County Legislature, 417 Liberty Street, Penn Yan, NY 14527; Ontario County Board of Supervisors, Ontario County, 20 Ontario Street, Canandaigua, NY 14424, Mayor and Village Trustees, c/o Mayor R. Mark Swinneton Jr., Village of Watkins Glen, 303 N. Franklin Street, Watkins Glen, NY 14891; and the Federal Energy Regulatory Commission, Kimberly D. Bose, Secretary, Federal Energy Regulatory Commission, 888 First Street, NE, Washington, DC 20426.

RESOLVED this 7th day of May, 2014

STATE OF NEW YORK )
COUNTY OF ONTARIO ) ss:

I, Doris Myers, City Clerk of the City of Geneva, New York, do hereby certify the foregoing to be a true and complete copy of an original resolution on file in the City Clerk's Office, which said original was adopted at a Regular Meeting of the Geneva City Council held on May 7, 2014.

Dated: May 8, 2014

[Signature]
City Clerk
May 13, 2014

Governor Andrew M. Cuomo
State Capital
Albany, NY 12224

Commissioner Joe Martens
New York State Department of Environmental Conservation
625 Broadway
Albany, NY 12233-1010

Re: Arlington Gas Storage and Finger Lakes LPG Storage (subsidiaries of Crestwood Midstream Partners LP) Projects near Watkins Glen

Dear Governor Cuomo and Commissioner Martens,

The Tompkins County Environmental Management Council has been following the development of the petroleum liquids and natural gas storage facilities proposed by subsidiaries of Crestwood Midstream Partners LP (formerly Inergy Midstream LP) in the Town of Reading north of Watkins Glen, New York. As you have noticed, there has been a public outcry against this proposed facility from its inception, coming from many different quarters. The Tompkins County Environmental Management Council hereby adds its voice to protest the Crestwood Midstream projects. We are neighbors of Schuyler County and Watkins Glen and the negative impacts of such projects will be felt in Tompkins County as well.

Our opposition to these projects is as follows:

1) Impacts of Proposed Gas-related Industrialization. The proposed industrialization of the Finger Lakes region by the oil and gas industry is remarkably inappropriate and unacceptable. Although smaller scale oil and gas facilities have historically been part of the Finger Lakes region, the socioeconomic fabric of the region is one of rural towns and smaller villages based on tourism, wineries, and agriculture, particularly organic farms and dairy operations. These local industries have been in place for generations and are the backbone of not only the local economies but much of the foodshed for the New York metro area. The proposed industrialization of parts of the Finger Lakes region is contrary to not only the economic engines of the region but the ethos of most of its population as well.

The two projects would add only add 8-10 full-time jobs on site, but put at risk a tourism-based growth engine that drove the addition of 10,000 new jobs in the Finger Lakes from 2010 to 2012. In 2012 tourists spent $2.8B in the Finger Lakes Region, up from $2.6B in 2010 [Fingerlakes.org]. This vibrant sector of the Finger Lakes economy should not be allowed to be
put at risk by natural gas and liquid petroleum storage projects that primarily will benefit a recently assembled patchwork of out-of-state companies, some of which may prove to be underinsured and to have few attachable assets in the event of a gas storage-related disaster.

2) **Environmental Impacts.** The environmental impacts of the Crestwood Midstream projects are significant, ranging from air and noise pollution to the potential contamination of the water supply for 100,000 people. Environmental degradation will come in other forms. Light and noise pollution from the startup of the Crestwood Midstream facilities is already adversely affecting local residents, even those living across the lake from the facility. Air pollution from increased train and truck traffic and from the potential use of stationary diesel engines at the facility will contribute to the formation of photochemical smog and ground level ozone. Local populations, especially those with asthma or other respiratory problems, could suffer adverse health effects. Ozone is especially damaging to grape leaves and alfalfa, two of the most important crops for local agricultural industries, and will potentially have a deleterious effect on these crops and those dependent upon them for their livelihood.¹

Various aspects of the potential environmental impacts of the proposed projects are detailed below.

A) The geological structures proposed to be used for natural gas storage have suffered damage in the past and the integrity of the former solution cavities is questionable. As can be seen from a 1967 cross-section of wells 27, 28, 30 & 31 (see Figure 3 on page 4 of the attached appendix) there was at that time understood to be very significant volumes of rubble or rock mass occupying the lower levels (and even mid- and upper-levels of well 30) of wells 30, 31 and 27. By 1973, it was understood that geologic faults compromised the safety of many if not all the wells and associated caverns at the site (see annotated index map at page one of the attached appendix). These issues raise significant questions regarding the potential for migration of the stored materials and the safety of both workers at the site and that of communities within a five-mile radius.

B) The standard technology for storing natural gas and liquid petroleum products in solution cavities in salt is to use hydrostatic pressure, usually in what is known as a “water curtain”, to hold the petroleum product in place. This works well in most salt formations, but there have been problems in others. This is partially due to the fact that natural gas liquids are slightly soluble in water and there will be some loss from solution cavities over time. Failures of solution cavities to contain natural gas liquids are also due to the geology of the rocks surrounding the solution cavities, the failure of cemented well casings, and the fact that salt is slightly ductile and subject to creep over time, altering the configuration of the solution cavities. A combination of these effects is probably what leads to failure of containment in solution cavities. Salt solution cavities make up only about 8 percent of the underground storage of

natural gas and natural gas liquids in the United States, but 45 percent of “accidents” and incidents have occurred in salt solution cavity storage of these materials.²

C) The impacts of salt mining on lake salinity. Seneca Lake is the most saline of the Finger Lakes. Chloride concentrations in 1900 were low ~40 mg/L, rose to ~170 mg/L by the 1960’s, and subsequently decreased since 1980 to the present day concentration of ~120 mg/L with parallel changes in Cayuga Lake (Halfman & Franklin, 2008).³ By contrast, chloride data from Canadice, Hemlock and Skaneateles increased from below 10 mg/L to above 30 mg/L from 1920 to the present day and were interpreted to reflect increased use of road salt on our major roadways (Sukeforth and Halfman, 2006)⁴.

Writing in 1966, Berg⁵ hypothesized that these higher salinity levels in the largest two Finger Lakes were due to deeper depths and closer proximity to underground rock salt strata. He completely dismissed surface inputs of NaCl waste from commercial facilities as ‘completely inadequate’ (p.203) to account for the maintenance of the high concentrations that prevailed in the two lakes at that time. However, in 1970, Cargill ended a 40-year practice of disposing of unsalable NaCl fines in Cayuga Lake and chloride levels have subsequently drifted down from a high of about 140 mg/L in 1970 to recent readings in the 40-70 mg/L range, which suggests that explicit disposal of salt mine waste had indeed accounted for more than half of recent salinity in Cayuga Lake and possibly Seneca Lake as well.

Large-scale industrialization of the area such as that proposed by Crestwood creates the potential for surface spills of brine from storage ponds. We know for a fact that the existing salt production facility at the site has had spills into Seneca Lake. Spills are the inevitable result of human error and misjudgment and increased industrialization of the area will lead to future spills to an already fragile ecosystem that is the water source for 100,000 people living around Seneca Lake.

D) Increased rail and truck traffic will also be a detriment to a town with already snarled traffic. The local governments are strapped for funds to maintain roads, bridges, and other infrastructure and are ill-equipped to handle the increased wear and tear on these infrastructure facilities. The local taxpayers will wind up footing the bill for such repairs, not Crestwood Midstream.

3. Longer-Term Economic Impacts.

The longer-term economic impacts of the Crestwood Midstream facilities are difficult to determine. Many local citizens are concerned about the loss of value of their property sited next to a busy noisy, industrial facility. Some businesses may choose to relocate or would start up a new business in a different location rather than be in close proximity to a large industrial site. A downturn in tourism or in seasonal rentals would cause economic hardship for many small local businesses. Given that only a handful of new jobs are being created the economic impact of the Crestwood Midstream projects does not look good for the local economy.

4. Safety Hazards.

The underground storage of 88 million gallons of liquid petroleum gas ("LPG") and 2 to 10 billion cubic feet of natural gas in underground salt caverns that were not designed for this purpose appears to pose significant risks to the surrounding communities and the environment of both Seneca Lake and downstream waterways. In a 36-page letter submitted in January to Earth Justice Attorney, Moneen Nasmith, Dr. H.C. Clark, Professor of Geology Emeritus, Rice University, reviewed the history of the salt-rock formations that Crestwood proposes to use for its expanded gas storage projects. Figures 1-4 as well as the map showing fault locations on page 19 of the letter are appended to this letter as Appendix One for your reference.

Among his concerns are:

1) Caverns 30 and 31 are cut by a bedding plane thrust fault involving a significant disturbed zone,

2) Gallery 2 that connects Caverns 30 and 31 is further complicated by a cavern roof collapse in Cavern 30 in the 1960s when a fault block weighing 400,000 tons fell from the ceiling.

3) The Jacoby-Dellwig Fault cuts the geologic section vertically in a north-south direction between Cavern 31 and Cavern 28. It was along this major strike-slip tear fault path that brine flowed to the surface during a hydraulic fracturing attempt at Well 29.

Dr. Clark asserts that wells 30, 31 & 45 were abandoned and plugged in 1989 for good reason. His letter includes the four figures and one map from 1960s reports, which are attached here at Appendix 1. These figures illustrate how structurally-challenged and fault-challenged various wells now owned by Crestwood actually are.

As discussed above, there are real questions regarding the structural integrity of the caverns Crestwood Midstream’s subsidiaries intend to use to house these dangerous substances. Migration of either LPG or natural gas through subsurface pathways could have catastrophic consequences and do enormous damage to the surrounding area. In addition, transport of LPG
through the region via train and truck place even greater swaths of the regional population at risk. An accident either at the facility or resulting from migration or transportation of the products Crestwood Midstream wishes to store in enormous volumes could include death and injury and would seriously compromise the health of the region's tourism industry.

The Quantitative Risk Assessment ("QRA") that was conducted for the LPG facility is insufficient to address these concerns. The scope of the QRA must be expanded beyond the risk of accidents on-site and include risks to the larger community from migration and transportation of natural gas and LPG through the Finger Lakes area. In addition, the Department of Environmental Conservation should not be permitted to approve either project until local emergency response teams are equipped and properly trained to respond to a large-scale emergency resulting from the proposed underground storage of millions of gallons of LPG and billions of cubic feet of natural gas.

Geologist Dr. Richard Young, Professor Emeritus of Geological Sciences, SUNY Geneseo, is concerned about the nearly complete lack of attention given to the critical geologic structures that might be breached under untested, long-term pressurization. These include the large fault running near or through the site along the lake shore, which has caused unanticipated leakage in the past. Additional structures include the ubiquitous rock joint patterns and folds, as well as the unknown condition of abandoned wells. The thin nature of the proposed (and damaged) salt storage beds (compared to most other operating facilities), as well as the interbedding of the salt layers with shale are of equal concern.

5. Financial Capacity.

No indication has been given whether and to what extent either of the subsidiaries operating the two storage facilities would be able to pay the enormous clean-up and remediation costs that would accrue in the event of a large accident. In the event that these projects were to be approved—an outcome we strenuously oppose—the State of New York must require that Crestwood Midstream be required to post an environmental bond of at least $1 billion dollars to be held in escrow by NY State. These funds would be kept in reserve for use by residents and businesses of the Finger Lakes as compensation for damages in the event of a catastrophic fire or explosion or contamination of Seneca Lake from operation of the either of the storage facilities.


The State of New York should ensure greater transparency in the process and better communication with the public about the safety issues raised by these projects. To date, Crestwood Midstream and its predecessor, Inergy Midstream L.P., have refused to make available significant volumes of information regarding cavern integrity and other safety-related concerns for public review. These out-of-state companies should not be permitted to hide behind overly-broad assertions of trade secrets at the expense of the ability of affected communities to inform themselves about the true risks of these major industrial projects.

We strongly urge you to consider the above risks, impacts, and comments when making a decision about the advisability of the industrialization of the Watkins Glen area and the Finger
Lakes in general. This is Central New York, not the Wild West, and we wish to preserve our quality of life and our environment. The Crestwood Midstream storage projects do not fit into these goals.

Sincerely,

Thomas Shelley  
Chemical Safety Specialist, retired  
Member, EMC

Copies:

Members of the Tompkins County Legislature:

District 1: Leslyn McBean-Clairborne  
District 2: Kathy Luz-Herrera  
District 3: Carol Chock  
District 4: Nathan Shinagawa  
District 5: James P. Dennis  
District 6: Michael Sigler  
District 7: Daniel Klein  
District 8: David M. McKenna  
District 9: Brian Robison  
District 10: Dooley Kiefer  
District 11: Peter Stein  
District 12: Will Burbank  
District 13: Martha Robertson  
District 14: Michael Lane

Affiliated with Crestwood-name entities:

1) Heath Deneke, President, Natural Gas Business Unit of Crestwood, Houston, Texas

2) Bill Gautreaux, President, Liquids & Crude Business Unit of Crestwood, Kansas City, Missouri.

3) Mike Campbell, Senior Vice President & CFO, Crestwood, Kansas City, Missouri

4) Steven Dougherty, Senior Vice President & CAO, Crestwood, Houston, Texas

5) Joel Lambert, Senior Vice President, General Counsel, & Corporate Secretary, Crestwood, Houston, Texas

6) Will Moore, Senior Vice President, Strategy & Corporate Development, Crestwood, Kansas City, Missouri.
7) Joel Moxley, Senior Vice President, Operations Services, Crestwood, Houston, Texas
Crestwood Midstream Partners LP Board of Directors

8) Robert G. Phillips, Director, Chairman, President and Chief Executive Officer of Crestwood Gas Services GP LLC since October 2010, of Crestwood Equity GP LLC (formerly Inergy GP, LLC) and Crestwood Midstream GP LLC (formerly NRGM GP, LLC) since June 2013. His address at Crestwood Midstream Partners: 700 Louisiana Street, Houston, Texas 77002; tel: 832-519-2200

9) Alvin Bledsoe, CPA, Director, Board of Directors of Crestwood Gas Services GP LLC since July 2007. Boards of Directors of Crestwood Equity GP LLC and Crestwood Midstream GP LLC since October 7, 2013. He has been a Director of NRGM GP LLC and Inergy GP, LLC since October 7, 2013. His current address: SunCoke Energy, Inc, 1011 Warrenville Road, Lisle, Illinois 60532; tel: 630-824-1000

10) Michael G. France, MBA, Director, Board of Directors of Crestwood Gas Services GP LLC since October 2010 and of Crestwood Equity GP LLC (formerly Inergy GP, LLC) and Crestwood Midstream GP LLC (formerly NRGM GP, LLC) since June 2013. Mr. France is a Managing Director at First Reserve Management LP, One Lafayette Place, 3rd Fl., Greenwich, CT 06830

11) Philip D. Gettig, Director, Board of Directors of Crestwood Gas Services GP LLC since July 2007. Boards of Directors of Crestwood Midstream GP LLC since October 7, 2013. Mr. Gettig is thought to be contactable at PO Box 1589, Colleyville, TX 76034-1589.

12) Warren H Gfeller, Director, Board of Directors of Crestwood Equity GP LLC (formerly Inergy GP, LLC) since July 2001 and the Board of Directors of Crestwood Midstream GP LLC (formerly NRGM GP, LLC) since December 2011.

13) David Lumpkins, Director, Board of Directors of Crestwood Midstream GP LLC since October 7, 2013. He currently serves as the Executive Chairman of the Board of PetroLogistics GP LLC, the General Partner of PetroLogistics LP, 600 Travis Street, Houston, Texas 77002; tel: 713-255-5990.

14) John J. Sherman, Director, Board of Directors of Crestwood Equity GP LLC (formerly Inergy GP, LLC) since July 2001 and the Board of Directors of Crestwood Midstream GP LLC (formerly NRGM GP, LLC) since December 2011. Mr. Sherman is the former Chief Executive Officer and President of Inergy, L.P. and Inergy Midstream, L.P. and served in those positions until June 2013.

15) David M. Wood, Director, Boards of Directors of Crestwood Equity GP LLC (formerly Inergy GP, LLC) and Crestwood Midstream GP LLC (formerly NRGM GP, LLC) since August 2013. Presumed contact address: Murphy Oil, 200 Peach Street, El Dorado, Arkansas 71731; tel: 870-862-6411
Figure 3. Index map, Watkins Glen, New York, brine field, International Salt Company. Upper number of each pair is well number; lower is surface elevation (where known).
Figure 2.
Figure 4.
Dear Gov. Cuomo:

I love living in Central New York in the Finger Lakes Region.

Our beautiful Lake Seneca is under assault from the gas industry, which intends to expand gas storage in salt caverns along the shore in spite of geologists who question the stability of the formation. An additional abomination on the shore would be a LPG storage facility.

Since FERC has put the interest of the gas industry over the interest of farmers, vinters, tourist businesses and the health of thousands who drink from Seneca Lake, I'm looking to you to be a hero and deny a permit for the expanded storage of gas in the salt caverns and for the LPG storage facility.

Sincerely,

(Ms.) Linda A. DeStefano

copy: Com.Martens

DEC
Resolution No. 213
SCHUYLER COUNTY LEGISLATURE

Regular Meeting
June 9, 2014

Intro. No. 27
Approved by Committee DAF - Individually
Approved by Co. Atty. GBR

Motion by Gifford
Seconded by Field
Vote: 5 Ayes to 3 Noes
Name of Noes Halpin, Lausell, Howell

RE: RESOLUTION SUPPORTING FINGER LAKES LPG STORAGE'S LIQUID PETROLEUM GAS PROJECT AND CALLING FOR GOVERNOR CUOMO TO ALLOW THE DEPARTMENT OF ENVIRONMENTAL CONSERVATION TO ISSUE NECESSARY APPROVALS

WHEREAS, in October 2009, Finger Lakes LPG Storage (“Finger Lakes”), a subsidiary of Crestwood Midstream Partners LP (formerly known as Inergy Midstream, L.P.) submitted as application to the New York State Department of Environmental Conservation (“DEC”) to construct and operate an underground Liquid Petroleum Gas (“LPG”) facility in caverns developed on US Salt property in the Town of Reading (the “Project”), and

WHEREAS, the caverns located on US Salt property have been used for underground gas storage (LPG and natural gas) since 1964 without incident, and another underground LPG facility adjacent to Finger Lakes’ proposed Project in the Town of Reading has also operated without incident since 1985, and

WHEREAS, the DEC has been lead agency for the Project under the State Environmental Quality Review Act (“SEQRA”) since February 2010; and after public input, the DEC issued a Final Scoring Document outlining the information Finger Lakes had to include in an Environmental Impact Statement (“EIS”), and

WHEREAS, in response to DEC’s requests and that of the public, additional information was submitted by Finger Lakes regarding the proposed brine ponds and other aspects of the Project, including voluntary concessions by Finger Lakes that would reduce both the aggregate size and area of its proposed brine ponds and the “Project’s overall environmental footprint, and

WHEREAS, additionally, in response to requests made by numerous elected officials, Finger Lakes retained a qualified expert to perform a Quantitative Risk Analysis and submitted its report to DEC in February 2012, and

WHEREAS, in May 2012, Finger Lakes received its authorization from the U.S. Corps of Engineers for the Project, after minimizing almost completely the impact on wetland and streams, and

WHEREAS, in September 2012, Finger Lakes submitted final engineering (for the brine ponds) and storm water plans to the DEC; and in March 2013, the New York Geologist advised the DEC of its approval of the Project, consistent with the requirement in the Environmental Conservation Law that he must approve of an underground storage project before DEC issues a permit, and

WHEREAS, in the State Geologist’s letter, he stated:

[T]here does not appear to be any geological reason to deny their request to utilize the geologic formations specified for the storage of liquefied petroleum gas. Their demonstration of both cap rock and cavern integrity is complete, and with a properly developed monitoring program, Finger Lakes’ proposed use of the Salt Point caverns is geologically sound. Further, in our review of the application materials, it has been demonstrated that the caverns in this salt formation have a longstanding operational record as a gas storage facility without any geologic evidence of incompatibility forth is intended purpose, and

WHEREAS, the County understands that the DEC Staff assigned to this Project has completed its review of the Project and is ready to finalize the SEQRA process and make a permit decision, and
WHEREAS, the Schuyler County Legislature through the above citations and their own independent review is satisfied that Finger Lakes’ application has demonstrated that underground storage of LPG can be done safely and without impact to drinking water sources or to Seneca Lake, and

WHEREAS, the caverns in this project are located in the same salt formation and share a similar makeup with the Arlington Storage Company’s proposed natural gas expansion project that has received approval by the Federal Energy Regulatory Commission (FERC), and

WHEREAS, as part of the review and subsequent approval, FERC has rejected or rebutted substantially all opposition comments and point raised by Gas Free Seneca, and

WHEREAS, local emergency response personnel, including the local fire chief and the Emergency Management network, have stated that first responders are well trained and have worked with Crestwood and others, to understand local facilities to allow an appropriate response in the unlikely event of an accident, and

WHEREAS, in addition to the economic reuse of depleted salt caverns developed by US Salt and its predecessors, the Project will add several high-paying jobs and in excess of $20 million in in tax base, and

WHEREAS, this project has direct benefits to the residents of Schuyler and surrounding counties in ensuring a constant stable supply of propane through winter months, potentially creating significant residential and commercial savings in future years, and

WHEREAS, the Schuyler County Legislature considers the safety and wellbeing of its residents and the economic value of the tourism to be among its greatest priorities and is satisfied that the proposed project will not adversely impact either, and

WHEREAS, although the Schuyler County Legislature has to date elected not to take a position on the Project based on its faith in, and assumed objectivity of, the DEC permitting process, it has become clear to the Schuyler County Legislature that not withstanding the facts set forth above, those opposing the Project have successfully lobbied to the Governor and DEC to simply not make a decision on Finger Lakes’ application.

NOW, THEREFORE, BE IT RESOLVED, based on the facts set forth above, the Schuyler County Legislature concludes that Finger Lakes, through its submissions and compliance with all regulatory requests, has demonstrated that it has minimized impacts to the maximum extent practicable and that the caverns to be used for LPG storage are well-suited for such use, and

BE IT FURTHER RESOLVED, that given all of the information supplied to the DEC supporting the Project and the time which has elapsed since the Application was submitted and the public hearings held, the Schuyler County Legislature hereby requests that the DEC finalize its review and make a final SEQRA determination and issue Finger Lakes the permit requested, and

BE IT FURTHER RESOLVED, that Schuyler County’s Emergency Management Director is hereby directed to prepare and incorporate an appendix to the Hazardous Materials Plan addressing transportation related incidents involving the release of hazardous materials, specifically Liquid Petroleum Gas, and

BE IT FURTHER RESOLVED, that a copy of this resolution be sent to Governor Andrew M. Cuomo, DEC Commissioner Joseph Martens, State Senator Thomas F. O’Mara, Assemblyman Philip A. Palmesano, and elected officials in the Town of Reading and Village of Watkins Glen.

STATE OF NEW YORK
COUNTY OF SCHUYLER

I, Jamee L. Mack, Deputy Clerk of the Schuyler County Legislature, do hereby certify that the foregoing is a true and exact copy of resolution duly adopted by the County Legislature on June 9, 2014.

IN TESTIMONY WHEREOF, I have hereunto set my hand and the seal of said County Legislature at Watkins Glen, NY.

[Signature]
Jamee L. Mack, Deputy Clerk

Date
From: Dennis Thompson <Dthompson280@gmail.com>
To: <commissioner@gw.dec.state.ny.us>
Date: 6/11/2014 6:30 AM
Subject: SUPPORTER OF LPG STORAGE FACILITY

Date of Correspondence 06/11/14

Dennis Thompson
116 N Mulberry St
Montour Falls NY, 14865

County: Schuyler

Email: Dthompson280@gmail.com
Email received from Website:
Hello my name is Dennis Thompson. I am a 34 years old and I'm a Maintenance Mechanic at US Salt in Watkins Glen NY. I have been employed by US Salt for 14 years. On June 9th 2014, the Schuyler County Legislators passed their support for the LPG Storage Facility. I'm writing to ask that you APPROVE and ISSUE the necessary permits for the LPG Storage Facility to move forward. I live in Schuyler County and have lived here my entire life. I'm emailing my STRONG SUPPORT for the LPG Gas Storage Facility!!! My life and lively hood depend on this GREAT paying job and without it I would probably have to move out of the area or even the state, to find comparable employment. US Salt supplies about 130 people with great paying jobs with an average annual salary of about $50,000 a year. Like myself, these employees spend a great deal of money within our county and community. If the loss of these jobs were to occur it would mean a sizable loss in tax revenue because most of US Salt's employees would have to relocate to find good comparable jobs! Not to mention that US Salt pays 1.2 to 1.7 million dollars in taxes annually. This county and village can not survive year round on tourism and the wine industry alone especially in the winter months. I'm sure you will hear much more from the people opposing it (Gas Free Seneca) than you will supporting it. A good amount of the people opposing the project do not live in Schuyler County and some of them, not even from the state. Our local legislature for Watkins Glen, Phillip Barnes, supports this project and spoke on behalf of the overwhelming SILENT PUBLIC that supports this too. The LPG Project does have ALOT of support from the "SILENT PUBLIC" but they do not speak much because members of "Gas Free Seneca" have bullied supporters of the project, slandered political figures and have participated in destruction of personal property. They have displayed borderline illegal behavior. The facts are gas has been stored in these salt caverns for decades with no issues! The LPG Storage is also a HUGE step in the right direction to reducing our dependency on foreign oil and reducing pollution by using cleaner burning gas. I urge you to vote YES and move this project forward. My family and many other families in this community depend on these jobs staying here!!!

THANK FOR YOUR TIME!!!

Sincerely,

Dennis B Thompson
June 13, 2014

Mr. Steve Churchill, Seneca County Supervisor
Seneca County Office Building
1 DiPronio Drive
Waterloo, NY 13165

Re: US Salt Well 58

Dear Supervisor Churchill;

This letter is in response to your June 9, 2014 email regarding the status of Well 58, from which Seneca County based a portion of their opposition to the proposed LPG storage project (attachment 1). In an effort to fully research this issue and evaluate the conflicting statements we have received on behalf of proponents and opponents alike, I contacted Mr. Mitchell Dascher, President of US Salt, LLC and requested pertinent files regarding the retesting of the Well 58 which was previously plugged and abandoned in 2001. In doing so, it is clear to me that the 2001 communications between NYS DEC and US Salt which you attached are outdated and have proven to be incorrect by more recent and accurate testing of Well 58.

In 2010, US Salt conducted more enhanced sonar and mechanical integrity testing of Well 58 in conjunction with USEPA and NYSDEC oversight. These newer tests proved that no roof collapse had occurred in 2001. A permit application was submitted to NYSDEC in 2010 to convert Well 58 back to a brine production well. This permit was approved by NYSDEC and Well 58 was put back in service that year and has operated without incident since then (see attachment 2).

On June 3, 2013, Arlington Storage Company LLC (ASC) which owns the Seneca Lake Natural Gas Storage Project located at the US Salt complex, filed with FERC a Seneca Lake Gallery 2 Expansion Project. FERC staff in turn requested a formal response to the accusation of roof collapses. Also enclosed is ASC’s response to Engineering Request #6, in which ASC explains that Well 58 was previously believed to have experienced a roof collapse which was subsequently proven not to have occurred (attachment 3). It should be further noted that Appendix 6-1 of Attachment 3 is a letter to NYSDEC which further explains this erroneous conclusion regarding Well 58 including a letter from US Salt’s former consultant recanting his original conclusion after reviewing updated data.

Finally, I have included pertinent sections of the FERC order, dated May 15, 2014 authorizing ASC’s expansion of its natural gas storage facility (attachment 4). In authorizing this storage expansion, the FERC order responds to and refutes substantially all claims and accusations by Gas Free Seneca and its counsel. Noting that FERC worked closely with NYSDEC in this proceeding, I would draw your attention to (i) paragraph 82 (page 26) in which FERC responds specifically to accusations about Well 58, (ii) the entire Geologic Hazards evaluation section on pages 24-30, in which...
FERC explains why each of GFS’s arguments about cavern geology and integrity are wrong, and (iii) paragraph 94 (page 30), where FERC concludes: “In consideration of our review of the geologic information provided by Gas Free Seneca’s expert geologists, we restate the EA’s conclusion that there will be no significant impact on environmental resources due to geologic hazards or from the geologic framework present in the Gallery 2 Project area.”

Should you have any questions regarding this response, please do not hesitate to contact me.

Sincerely,

Dennis A. Fagan, PE, Chairman
SCHUYLER COUNTY LEGISLATURE

Enclosures: Attachment 1
Attachment 2
Attachment 3
Attachment 4

CC: Governor Andrew M. Cuomo
Schuyler County Legislature
Senator Michael Nozzolio
Senator Thomas O’Mara
Assemblyman Minority Leader Brian Kolb
Assemblyman Phillip Palmesano
\[NYSDEC Commissioner Joseph Martens\]
Supervisor Marvin Switzer, Town of Reading
Mayor Mark Swinnerton, Village of Watkins Glen
Ms. Kate Bartholomew, Chairperson Schuyler County EMC
Mr. Mitchell Dascher, President, US Salt, LLC
Stacy Husted

From: Steve Churchill <schurch1@rochester.rr.com>
Sent: Monday, June 09, 2014 10:17 PM
To: Stacy Husted
Subject: Well 58 - Chairman Fagan

Stacy,

This evening Chairman Fagan challenged me regarding the status of Well 58 which Seneca County based a portion of our opposition to the proposed LPG storage project. Attached is a 2001 communication between the DEC and US Salt regarding Well 58.

The issue subject of the communication is Well Integrity. US Salt summarizes that the plan for Well 58 is to ‘plug and abandoned’.

I personally presented this communication to DEC Commissioner Joe Martens for his consideration and to date have seen no DEC report that refutes the 2001 determination.

Please forward to Chairman Fagan and the rest of the Board.

Thank you....

Steve Churchill
Seneca County Supervisor
June 4, 2001

Mr. Mark A. Cole  
Project Manager  
New York State Electric and Gas Corp.  
Kirkwood Industrial Park  
P.O. Box 5224  
Binghamton, NY 13902-5224

Re: Well Integrity At Galleries 1 and 2, Watkins Glen  

Dear Mr. Cole:

This is to confirm our telephone conversation of June 1, 2001, during which I described the Department’s need to reconfirm the integrity of specific underground natural gas storage wells at New York State Electric and Gas Corp.’s (“NYSEG”) Watkins Glen facility.  

As we discussed, the Department’s actions are in response to the Hutchinson, Kansas, incident where a significant amount of natural gas presumably leaked from an underground storage well and/or cavern constructed in salt at the Yaggy storage field operated by Kansas Gas Service. It is the Department’s understanding that the well suspected of leaking may have been damaged and its integrity compromised during the re-entry and conversion process.

While we recognize the significant geologic, operational and well design differences between your operation and the Yaggy field, the two facilities do have one common aspect in that plugged wells were re-entered at both sites. Furthermore, the Department is currently investigating the possible existence of several unplugged International Salt wells (dating back to the early 1900’s) located along Seneca Lake, less than one mile southeast of NYSEG’s storage cavern and wells. As you know, unplugged solution mining wells in Hutchinson are believed to have served as the escape route for storage gas which leaked at Yaggy.

Our objective is to reassess and ensure the integrity of re-entered wells at NYSEG’s active storage cavern Gallery No. 1 and potential storage cavern Gallery No. 2. The Department’s files indicate that re-entered wells in these galleries include Well Nos. 28 (API #31-097-03892), 46 (API #31-097-61202), and 30 (API #31-097-61188). Please prepare a report which documents the integrity of each of these wells. The report must, at a minimum, provide
the following and may reference documentation previously supplied to the Department in support of NYSEG's underground storage permit.

1. Discussion of whether daily drilling reports indicate any problems and/or excessive metal in returns and/or any other items that could suggest possible casing damage during well re-entry.

2. Review and analysis of any internal casing inspection logs.

3. Review and analysis of all bond logs.

4. Explanation of any casing liners run in well (i.e., why run, date run, size, grade, length, setting depth, packer or cement, cement top).

5. Summary of mechanical integrity test ("MIT") results prior to cavern fill with natural gas.

6. Plans and dates for future MIT's or other methods by which casing integrity/condition will be evaluated.

7. Any other information that distinguishes NYSEG's well design and facility operation from the conditions and factors that may have contributed to the Hutchinson incident.

In addition to the above report, we request an analysis of your daily storage facility records to determine if NYSEG's cavern shows any signs of collapse or roof falls, or was otherwise affected by the cavern collapse at US Salt's Well No. 58 (API #31-097-21467) that occurred some time prior to February 12, 2001, or the event, if any, which caused the collapse. Please submit a summary of this review and any conclusions with respect to whether NYSEG's storage operation was affected in any way.

Please provide the information requested herein by July 31, 2001. Thank you in advance for your cooperation and call me or Peter Briggs if you have any comments or questions concerning this correspondence. Finally, please note our new phone number and mailing address.

Sincerely,

Kathleen F. Sanford
Chief, Permits Section

R. Nemecek
May 24, 2001

New York State Department of Environmental Conservation
Division of Mineral Resources
Bureau of Oil & Gas Regulation, Room 290
50 Wolf Road
Albany, New York 12233-6500

Attn: Kathleen F. Sanford
Chief, Permits Section

RE: Solution Salt Mining Well No. 58
API #31-J97-21467

Dear Ms. Sanford:

I must apologize for not replying earlier, but vacation times and availability of people to cover these periods caused the delay.

Reports and conversations with Larry Sevenker prior to the last loggings appeared that the cavern at Well 58 was progressing normally. The latest logging indicated that the roof of the cavern had collapsed and filled the whole cavern with rubble. Mr. Sevenker further reported that it appeared that the upper formations may have been in a fractured and faulted zone and that a small magnitude earthquake could have damaged the cavity.

We have enclosed seismic local log that Mr. Sevenker obtained indicating small earthquake activity.

Our intentions for this well are to plug and abandon on the advice of our consultant, Mr. Sevenker. He clearly states in his report that the roof movement is unusual and renders the cavity unusable for continued development or storage. We will submit the Notice of Intention to Plug and Abandon form as soon as we have planned dates for these operations.

Sincerely,

[Signature]

Alan Parry
Plant Manager

AP:s
Enclosure
LAMONT COOPERATIVE SEISMIC NETWORK (LCSN)

Member of the Council of the National Seismic System (CNSS)

The LCSN is operated by Lamont-Doherty Earth Observatory in cooperation with the State University of New York at Potsdam, The University of Vermont, Middlebury College (VT), Westchester Community College, the Adirondack Ecological Center, and the Geological Survey of Delaware. The network operation is supported by the National Earthquake Hazard Reduction Program (NEHRP) through the U. S. Geological Survey.

Other similar bulletins listed at finger quake@idgo.columbia.edu

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From Carl Tweedie to PG, 5/31/01

Great Wall production at well No. 5F
Shower change in Saratov station on "90s" to "60s" in September 2000.

http://www.idgo.columbia.edu/cgi-bin/finger?quake@chaos.ideo.columbia.edu

1/15/01
February 24, 2010

Linda Collart
Regional Minerals Manager
New York State DEC
Division of Mineral Resources, Region 8
6274 East Avon-Lima Road
Avon, NY 14414

RE: Well 58 API # 31-097-21467-00-01 EPA MIT Test Report.
ATTN: William Glynn

Dear Ms. Collart,

Inergy Midstream/ US Salt conducted an EPA MIT test on well 58 on February 24, 2010. The test was witnessed by Jeffery Blair EPA UST/UIC Region II Field Inspector with POLU KAI SERVICES contracted by the EPA. His phone number is 814-280-4224. William Glynn from the department was contacted by phone the day prior to the test. He said he would be unable to attend the test but requested a copy of the results which are attached. Included in the attached report are copies of the charts, spreadsheet of the 10 minute monitoring of chart recorder pressures and digital gauge readings on casing and tubing, and a copy of the EPA Notice of inspection. If you have any questions please give me a call at 607-321-8084

Sincerely,

Barry Moon
Manager Inergy Midstream LLC
February 24, 2010

Mr. Dennis J. McChesney  
Chief, Ground Water Compliance Section  
U.S. Environmental Protection Agency  
290 Broadway, 20th Floor  
New York, New York 10007-1866  

ATTN: Mr. Luis Rodriguez  

RE: Mechanical Integrity Test Results  

Dear Mr. Rodriguez:

US Salt LLC / Inergy Midstream LLC conducted a mechanical integrity test (MIT) on Well No 58 on February 24, 2010. This well was P & A on 10-14-2003. Inergy Midstream applied for and received a drilling permit from the NYS DEC to drill out the cemented well to conduct a test on the cavern for solution mining and possible future LPG storage. US Salt will start to solution mine on well 58 as soon as DEC converts well from a stratigraphic well to a solution mining well status.

Calibrated Chart recorders and gauges were used on both tubing and casing sides of wells.

The wells passed the MIT as witnessed by Mr. Jeffrey Blair EPA Region 11 UIC/UST inspector.

Enclosed please find copies of:

1) Certificate of Calibration for the Test Gauges and chart recorders.
2) Copies of the charts used for the test.
3) The results of the Mechanical Integrity Test

Sincerely,

Barry L. Moon

Enc.
Cc: Mr. Jeffrey Blair, w/o attachments 
Linda Collart NYS DEC Region 8

7535 Eagle Valley Road  
Savona, New York 14879  
Phone: 607-776-4201  
Fax: 607-776-6610
February 26, 2010

Linda Collart  
Regional Minerals Manager  
New York State DEC  
Division of Mineral Resources, Region 8  
6274 East Avon-Lima Road  
Avon, NY 14414

RE: Well 58 API # 31-097-21467-00-01 Long Term Brine Test Report.

Dear Ms. Collart,

As you know Inergy Midstream recently conducted a long term brine pressure test on well 58, which was approved by the Department. Before any testing began and at the Department’s request, Inergy notified NYSEG by certified mail of the planned long term test start date. A return receipt was received from NYSEG and a copy was provided to the Department. The Department was notified prior to initial pressure up on January 17, 2010 by e-mail to William Glynn. The NYSEG facility was notified of initial start of pressure up on January 19, 2010 by phone call.

On January 19, 2010 the long term brine pressure up of well 58 began with the injection of saturated brine down the tubing string at approximately 100 gallon / min. A total of 87,300 gallon of saturated brine was injected to reach test pressure. Chart recorders were installed on the casing and tubing of well 58. A chart recorder was installed on Inergy/US Salt well 48 and well 60, and NYSEG wells 30 and well 59. A pressure gauge was also installed on Inergy/US Salt well 61. Inergy/US Salt wells 35 and 39 were visually monitored. All of these wells were monitored every hour during initial pressure up.

During initial pressure up of well 58 a total pressure drop of 22 psi in 22 hrs occurred, which equals 1 psi/hr drop in pressure. After a second pressure up there was a total pressure drop of 27.4 psi in 137.5 hours, which equals .2 psi/hr drop in pressure. Lake Side Resort’s well could not be monitored because the resort was closed for the season.

On February 5, 2010, William Glynn of Department Staff was notified by phone that the long term test would start on February 8, 2010. The long term brine pressure test started at 11:30 am on February 8, 2010. The casing pressure at start up on well 58 was 611.4 psi at the well head. The tubing pressure at start up on well 58 was 608.5 psi at the well head.
The long term brine pressure test ended at 11:30 am on February 15, 2010. The ending casing pressure on well 58 was 605.6 psi at the well head. The ending tubing pressure on well 58 was 602.3 psi at the well head. While monitoring the wells listed above, no changes occurred, except for US Salt operational changes, NYSEG operational changes, and weather conditions which are documented in the attached IM WELL #58 HYDROSTATIC CAVERN TEST spreadsheet.

For the 7 day duration of the long term brine test, well 58 had a total pressure drop of 5.8 psi on the casing at the well head which equals a .03 psi/hr drop. The tubing had a total pressure drop of 6.2 psi at the well head which equals a .04 psi/hr drop. The difference in pressure drop between the casing and tubing is due to the column height of the tubing being higher above the casing. In addition, temperature was taken at time of pressure recordings to show the affects of the weather on the tubing string, because there was approximately 40 ft of exposed 6 inch pipe. The pressure increased during the day light hours due to the temperature being warmer and decreased during the night due to the temperatures being colder. Inergy concludes that the pressure drop recorded is due to expansion of the cavern and brine temperature and salinity equalization. Cavern pressure drop/hr continued to be less from initial pressure up to the end of the test.

Based on the above, Inergy concludes that the well and well casing is satisfactory for solution mining and LPG Storage. The results of this pressure for well 58 will be incorporated into a revised Reservoir Suitability Report currently being worked on in response to the Department's January 11, 2010 Notice of Incomplete Application for the Finger Lakes LPG Storage Facility. A brine/ nitrogen interface test approved by the Department, will be conducted on well 58 prior to putting this cavern into LPG storage when a storage permit is issued to Finger Lakes by the Department. Attached is the monitoring spreadsheet, copies of the charts, and certification of Calibration papers for the gauges and chart recorders used on well 58 for the monitoring results for the testing described above.

Sincerely,

Barry Moon
Manager Inergy Midstream LLC
March 2, 2010

Linda Collart  
Regional Minerals Manager  
New York State DEC  
Division of Mineral Resources, Region 8  
6274 East Avon-Lima Road  
Avon, NY 14414

RE: Well 58 Conversion from Stratigraphic well to Brine Production well API # 31-097-21467-00-01

Dear Ms. Collart,

Enclosed is the application to convert well 58 from a stratigraphic well to a brine production well.

Well 58 was plugged by US Salt on October 14, 2003 due to advice from consultant Larry Sevenker. During the last logging of well 58 prior to plugging, the indication was that the roof of the cavern had collapsed and filled the whole cavern with rubble. Mr. Sevenker further reported that a small magnitude earthquake could have damaged the cavity. This was reported to the Department in a letter dated May 24, 2001 to Kathleen Sanford from Alan Perry, Plant manager of US Salt.

After further review by US Salt LLC, concluded that well 58 could not have been filled with rubble completely. This conclusion was based on conversations with Larry Sevenker consulting engineer for US Salt and Jeff Childress from Micro systems Sonar survey company which was the contractor conducting the sonar on well 58. Larry Sevenker told us that they pulled the 4 1/2” tubing up to sonar in open hole, but were unable to get out the bottom. The 4 1/2” tubing was set at 2632’ inside of 7” tubing set at 2,613’. They tried to sonar through the 4 1/2” and 7” tubing on the way out, with results showing no open hole. This was the basis of their conclusion to plug the well. Larry Sevenker looked into seismic activity at the time prior to the logging and determined there was a small magnitude earthquake which could have caused the collapse. We spoke with Jeff Childress about his sonar tool and found out that he could not shoot accurately through one string of pipe and definitely not through two strings. US Salt concluded that this was the evidence proving it was not possible for the cavern to be full of rubble and the sonar was not accurate in finding the cavern due to the two strings of tubing. Prior to plugging well 58 US Salt pulled out the 4 1/2” and 7” tubing from the well. The 9 5/8” casing was plugged to surface.
A drilling application was issued by the department on October 6, 2009 to drill out the cement in the plugged casing. On October 14, 2009 plug was drilled out and encountered 632.4 psig at surface on casing. Pressure was taken with a calibrated gauge from US Salt by Dave Cren Plant Engineer. The pressure encountered is above the long term brine test pressure approved by the department. Pressure was bled to zero by flowing brine to US Salt Brine Pond. Sonar was completed open hole by Sonarwire Inc on October 20, 2009. Copies of the Sonar were submitted to the department along with cement bond log, directional survey and Microvertilog. The well has been completed with a 5 1/2" hanging tubing string to 2,420 ft with a 3000# well head. The cemented 9 5/8" casing is 33 ft deeper than the cavern roof. Results from the sonar show that the cap rock is intact with the top of salt at the cavern roof. Cavern capacity from the sonar shows 512,212.1 barrels at 2,471 ft and a max diameter of 276 ft at 2,404 ft. Inergy feels that the information we have discovered since drilling out the well shows a very nice shaped cavern and it is adequate for solution mining. Based on the fact of the results of our sonar study and the established mechanical integrity of the cavern Inergy will be turning ownership over to our US Salt company to do the solution mining to increase the capacity for possible LPG Storage. Prior to converting to LPG storage a well conversion application will be submitted to the department and a brine/nitrogen interface test will be conducted on the well/wellbore.

After you have had an opportunity to review the enclosed application material please contact me if you have any questions at 607-321-8084.

Sincerely,

Barry Moon
Manager Inergy Midstream LLC

Addendum February 26, 2010

Inergy Midstream has completed the long term brine pressure test on well 58 along with a MIT test witnessed by EPA contractor Jeffrey Blair. In conjunction with this conversion application for well 58 to a solution mining well, per departments request Inergy midstream has determined to increase the capacity of well 58 for future LPG storage from approximately 384,385 barrels which is from the sonar (October 20, 2009) from where the tubing is set to approximately 730,000 barrels. The estimated future max diameter is 378 ft at the bottom of the cavern and 130 ft at the top of the cavern. These diameters are estimated and due to time constraints may not reach these distances. Capacity of the cavern will be continuously calculated by monitoring the fresh water injected and the brine produced with meters and specific gravity/temperature of the brine produced. When complete Inergy will conduct a sonar on the cavern and conduct a brine/nitrogen interface test before it is put in to LPG service.

Barry Moon
Manager Inergy Midstream LLC

7535 EAGLE VALLEY ROAD
SAVONA, NEW YORK 14879
PHONE: 607-776-4201
FAX: 607-776-6810
March 4, 2010

Linda Collart  
Regional Minerals Manager  
NYS DEC - Region 8  
6274 East Avon-Lima Road  
Avon, NY 14414

Re.: US Salt LLC – Well 58 Conversion Application

Dear Ms. Collart:

Enclosed is an application for conversion of Well 58 from a stratigraphic well to a solution mining well. With the Department’s approval for conversion, Well 58 will be used for fresh water injection to produce brine for salt production at our facility.

Previously submitted documents show Well 58 is suitable for solution mining for the sole purpose of salt brine production at our facility only.

If you have any questions or need additional information, please do not hesitate to contact me.

Sincerely,

Frank Pastore  
Plant Manager

xc: William Glynn – NYSDEC Region 8  
Well 58 file
APPLICATION FOR PERMIT TO DRILL, DEEPEN, PLUG BACK OR CONVERT A WELL SUBJECT TO THE OIL, GAS AND SOLUTION MINING LAW

This application is a legal document. Read the applicable affirmation and acknowledgment carefully before signing.

For instructions on completing this form, visit the Division's website at www.dec.ny.gov/energy/2506.html or contact your local Regional Oil and Gas Office.

PLANNED OPERATION: (Check one)
- Drill
- Deepen
- Plug Back
- Cement

TYPE OF WELL: (Check one)
- New
- Existing

Existing API Well Identification Number
- 31-1097-21467-00001

TYPE OF WELL BORE: (Check one)
- Vertical
- Directional
- Horizontal

NAME OF OWNER: (Full Name of Organization or Individual as registered with the Division)

US Salt LLC

ADDRESS (P.O. Box or Street Address, City, State, Zip Code)

3500 Salt Point Road, Watkins Glen, NY 14891

NAME AND TITLE OF LOCAL REPRESENTATIVE WHO CAN BE CONTACTED WHILE OPERATIONS ARE IN PROGRESS

Frank Pastore Manager

ADDRESS - Alternate (P.O. Box or Street Address, City, State, Zip Code)

3500 Salt Point Road, Watkins Glen, NY 14891

TELEPHONE NUMBER (Include area code)

607-535-2057

COUNTY:

Schuyler

TOWN:

Reading

FIELD/POOL NAME (or "Wildcat")

US Salt

WELL NAME:

Well 88

WELL NUMBER:

50

NUMBER OF ACRES IN UNIT:

199

7.5 MINUTE QUAD NAME:

Reading Center

QUAD SECTION:

F

PROPOSED TARGET FORMATION:

Salt

LOCATION DESCRIPTION:

Surface

NAD83

Top of Target Interval

NAD83

Bottom of Target Interval

NAD83

Borehole Hole

2,642

2,642

PROPOSED WELL DATA:

WELL TYPE (Check one)

- Oil Production
- Gas Production
- Brine
- Surface
- Injection
- Brine Disposal
- Geothermal
- Geothermal

PLANNED TOTAL DEPTH:

TVD 2,642 ft

TMD 2,642 ft

PLANNED DATE OF COMMENCEMENT OF OPERATIONS:

NAME OF PLANNED DRILLING CONTRACTOR (as registered with the Division)

TELEPHONE NUMBER (Include area code)

SURFACE ELEVATION (Check box obtained)

- 614 ft
- 344 ft
- Submerged
- Trench Map
- Other

TYPE TOOLS

- Cable
- Rotary

- Air
- Water
- Mud

ON ATTACHED SHEET GIVE DETAILS FOR EACH PROPOSED CASING STRING AND CEMENT JOB INCLUDING BUT NOT LIMITED TO: BHA size, casing size, casing weight and grade, TVD and TMD of casing set, scratchers, centralizers, cement blanks, suds of cement, class of cement, cement additives with percentages or pounds per barrel, estimated TVD and TMD of the top of cement, estimated amount of excess cement and waiting-on-cement time.

FOR DIRECTIONAL OR SIDETrack WELLS ALSO INCLUDE A WELL BORE DIAGRAM SHOWING THE LOCATION OF THE ITEMS INCLUDED IN THE ABOVE REFERENCED DETAILS.

BOND NUMBER

API WELL IDENTIFICATION NUMBER

31-1097-21467-00001

RECEIPT NUMBER

DATE ISSUED
US Salt LLC request to convert well 58 from a stratigraphic well to a brine production well.

AFFIRMATION AND ACKNOWLEDGMENT

A. For use by individual:

By the act of signing this application:

(1) I affirm under penalty that the information provided in this application is true to the best of my knowledge and belief; and that I possess the right to access property, and drill and/or extract oil, gas, or salt, by deed or lease, from the lands and sites described in the well location data section of this application. I am aware that any false statement made in this application is punishable as a Class A Misdemeanor under Section 210.45 of the Penal Law.

(2) I acknowledge that if the permit requested to be issued in consideration of the information and affirmations contained in this application is issued, as a condition to the issuance of that permit, I accept full legal responsibility for all damage, direct or indirect, of whatever nature and by whomsoever suffered, arising out of the activity conducted under authority of that permit; and agree to indemnify and hold harmless the State, its representatives, employees, agents, and assigns for all claims, suits, actions, damages, and costs of every name and description, arising out of or resulting from the permittee's undertaking of activities or operation and maintenance of the facility or facilities authorized by the permit in compliance or non-compliance with the terms and conditions of the permit.

Printed or Typed Name of Individual

______________________________

Signature of Individual

______________________________

Date

B. For use by organizations other than an individual:

By the act of signing this application:

(1) I affirm under penalty of perjury that I am ___________________________ (title) of ___________________________ (organization); that I am authorized by that organization to make this application; that this application was prepared by me or under my supervision and direction; and that the aforementioned organization possesses the right to access property, and drill and/or extract oil, gas, or salt by deed or lease, from the lands and site described in the well location data section of this application. I am aware that any false statement made in this application is punishable as a Class A Misdemeanor under Section 210.45 of the Penal Law.

(2) ___________________________ (organization); acknowledges that if the permit requested to be issued in consideration of the information and affirmations contained in this application is issued, as a condition to the issuance of that permit, it accepts full legal responsibility for all damage, direct or indirect, of whatever nature and by whomsoever suffered, arising out of the activity conducted under authority of that permit; and agrees to indemnify and hold harmless the State, its representatives, employees, agents, and assigns for all claims, suits, actions, damages, and costs of every name and description, arising out of or resulting from the permittee's undertaking of activities or operation and maintenance of the facility or facilities authorized by the permit in compliance or non-compliance with the terms and conditions of the permit.

Frank Pastore

Printed or Typed Name of Authorized Representative

______________________________

Signature of Authorized Representative

______________________________

Date
March 4, 2010

Mr. Frank Pastore, Plant Manager
US Salt, LLC
3380 Salt Point Road
Watkins Glen, NY 14891

Re: US Salt, LLC – Well 58 (API#: 31-097-21467-00-01) – March 4, 2010 Application For Permit To Convert Stratigraphic Well to Brine Well, Reading Tsp, Schuyler County, New York

Dear Mr. Pastore:

Enclosed herewith please find “Permit To Convert” the above referenced well from a “stratigraphic well” to a “brine well”.

Please be advised that the above mentioned permit only allows the referenced well to be converted and operated as a brine well (injection and/or withdrawal well) in the solution salt mining operations located at the US Salt, LLC facility in Watkins Glen, NY.

In the event the operator desires to convert the above mentioned brine well to a different well type, a new application must be submitted by the operator and approved by the New York State Department of Environmental Conservation.

This well must be in compliance with all terms and conditions, including all amendments set forth in the United States Environmental Protection Agency’s (USEPA) – Underground Injection Control (UIC) Permit for brine wells located at the US Salt, LLC facility in Watkins Glen, NY.

Sincerely,

Linda Collart
Region 8 - Minerals Resources Supervisor
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF MINERAL RESOURCES

PERMIT TO CONVERT
31-097-21467-00-01

Fee: N/A  Expiration Date: September 5, 2010
(If conversion is not commenced before the expiration date)

Pursuant to Article 23 of the Environmental Conservation Law,

US Salt LLC of 3580 Salt Point Road, Watkins Glen, NY 14891
(Owner)

is authorized to convert the Well 59 (Well Name)
in the Town of Reading County Schuyler
as described in the Owner's Application for Permit, dated March 4, 2010 and all subsequent submittals

to the Department.

NOTIFY THE DIVISION OF MINERAL RESOURCES AT LEAST 24 HOURS PRIOR TO SPUDDING THE WELL
PHONE: (585) 226-5376 (Avon Office)
SPECIAL INSTRUCTIONS OR CONDITIONS

Issuance of this permit is conditioned upon the following:

1. Both this permit and attached sheets must be displayed.
2. Well must remain in regulatory compliance at all times.
3. Any non-routine event regarding this well must be reported to the DEC within 2 hours of the event.

Only blockades with current registration for use in New York may be used for any operation at the wellsite. Products must be properly labeled, and the label must be kept on-site during application and storage.

Failure to conform to ECL 23, 6NYCRR Parts 550 - 559 and the SPECIAL INSTRUCTIONS OR CONDITIONS above or attached may result in the suspension of this permit.

Issued by: Linda Collart / Mineral Resources Specialist 4  March 5, 2010
Department Representative and Title

This permit, or a copy certified by the department, must be publicly displayed by the owner at the well site during the drilling operation and must at all times be visible, legible and protected from the elements.
1. **Conversion.** This well is permitted as an brine well. Conversion for any other use under the jurisdiction of the Oil, Gas and Solution Mining Law is not authorized until after the well operator has submitted an application to convert the well and the Department has issued a permit to convert the well. Any application to convert the well for oil or gas production from any formation(s) and/or depth(s) for which a spacing unit is required pursuant to ECL §23-0501 must include a proposed spacing unit for the formation(s) and/or depth(s) proposed for production.
Arlington Storage Company, LLC  
Seneca Lake Gallery 2 Expansion Project  
Docket No. CP13-83-000  
Responses to the May 15, 2013 Engineering and Rates Data Request  
of the Federal Energy Regulatory Commission  

June 3, 2013

ENGINEERING REQUEST:

6. In response to commenters concerns regarding cavern roof failure, please state if this has ever been an issue in either Gallery 1 or Gallery 2 or if you have knowledge of any roof or wall failures in any of the caverns within Watkins Glen Brine Field.

RESPONSE:

To Arlington's knowledge, there have been no cavern roof failures in Galleries 1 or 2, or in any other cavern within the Watkins Glen Brine Field in which natural gas or natural gas liquids have been stored.

Arlington believes that commenters are referring a consultant’s conclusion that has since been proven to have been incorrect. In 2001, US Salt submitted materials to the NYSDEC indicating that its geologist had concluded that the roof of another cavern (Well 58) had collapsed and, as a result, it would be necessary for US Salt to plug and abandon the cavern. However, when well/cavern 58 was reentered in 2009, sonar confirmed that the cavern was intact with 276 feet of height and 515,000 barrels of space. Subsequent sonars and additional testing have demonstrated that the 2001 conclusion that a roof collapse had occurred was inaccurate, and NYSDEC subsequently authorized US Salt to resume brine production using Well 58. The geologist involved has acknowledged that his conclusion that a roof collapse had occurred was inaccurate, and his acknowledgment letter was submitted to the NYSDEC as part of its ongoing review of Inergy’s proposed Finger Lakes LPG storage project. A copy of the acknowledgment letter is attached as Appendix 6-1. A more detailed explanation of these events appears in Section 5 of the Finger Lakes Reservoir Suitability Report, a copy of which (without attachments, which are voluminous) is attached as Appendix 6-2.

PREPARED BY:

John Istvan  
Director of Subsurface Technology  
Tres Palacios Gas Storage LLC (Inergy, L.P.)  
350 Glenborough, Suite 138  
Houston, TX 77067  
Phone: 281.453.5354  
jistvan@inergyservices.com
January 22, 2013

VIA ELECTRONIC MAIL AND 
FIRST CLASS MAIL

David L. Bimber  
Deputy Regional Permit Administrator  
Division of Environmental Permits  
New York State Department of 
Environmental Conservation  
Region 8  
6274 East Avon-Lima Road  
Avon, NY 14414-9519  

Re: Finger Lakes LPG Storage Project  
DEC Facility No. 8-4432-00085  

Dear Mr. Bimber:

As the Department might be aware, opponents of the Finger Lakes LPG Storage Project have recently stated or implied that the Applicant and its owner, Inergy Midstream, L.P., have not been forthcoming with the Staff or the public about the mechanical integrity of a cavern to be converted into LPG storage in the proposed project. Specifically, it has been suggested that the Applicant has inappropriately concealed the conclusion by a US Salt independent contractor that the roof of well 58 had collapsed. The Applicant assures the Department that these claims are without merit.

By way of background, the confidential Reservoir Suitability Report filed with the Department on May 14, 2010 explains how Mr. Sevenker drew his conclusion and why his conclusion was wrong. Applicant's position is supported by sonars, mechanical integrity tests, well logs and other recent data, all of which have been submitted to the Department and demonstrate that a roof collapse has not occurred. In fact, the Department was already aware of the inaccurate nature of Mr. Sevenker's conclusion, as much of this data had been provided to the Department when US Salt requested in 2010 a permit to use well 58 for brine production.

In furtherance of the Applicant's desire to be transparent with the Department, and to help dispel any concerns about the purported roof collapse, the Applicant is compelled to submit the enclosed statement from Mr. Sevenker. In short, Mr. Sevenker recognizes that his 2001 conclusion regarding a roof collapse was erroneous and effectively recants his inaccurate conclusion.
Thank you.

Sincerely,

BOND, SCHOENECK & KING, PLLC

Kevin M. Bernstein

Enclosure

cc: (w/enclosure)
    Peter Briggs, NYSDEC
    Linda Coliart, NYSDEC
    Paul D'Amato, NYSDEC
    Lisa Schwartz, Esq., NYSDEC
    Scott Sheeley, NYSDEC
    Finger Lakes LPG Storage, LLC
January 15, 2013

To Whom It May Concern

I was contracted by US Salt to perform a sonar survey of well #58 in January 2001. I was unable to get a sonar picture of the cavern at that time, which I attributed to a disturbance in the formation (a roof collapse) that filled the cavity with rubble. US Salt, at my recommendation, plugged and abandoned the well.

US Salt has since provided me two more recent sonars showing a completely different profile of the cavern—one not filled with rubble, but rather normal looking. Recent mechanical integrity testing further proves the structural integrity of well 58. US Salt also resumed normal solution mining on the cavern in 2010, and has solutioned the cavern without issue. Based on the updated data and the fact that well #58 continues to hold pressure for brine production, it does not appear that a roof collapse occurred and that my initial assessment in 2001 was inaccurate.

I understand that opponents to the Finger Lakes LPG storage development project are pointing to my 2001 assessment as proof that well #58 lacks structural integrity and therefore is completely unsafe. The updated data does not support this claim, and I wanted to set the record straight.

Larry Sevenker
Consulting Engineer
ORDER ISSUING CERTIFICATE AND REAFFIRMING MARKET-BASED RATES

(Issued May 15, 2014)

1. On February 26, 2013, Arlington Storage Company, LLC (Arlington) filed an application pursuant to section 7(c) of the Natural Gas Act (NGA)\(^1\) and Part 157 of the Commission’s regulations\(^2\) for authorization to expand its Seneca Lake Storage Project (Seneca Lake Project), located in Schuyler County, New York. The proposed expansion project, referred to as the Gallery 2 Expansion Project (Gallery 2 Project), involves the conversion of two interconnected bedded salt caverns (collectively known as Gallery 2), previously used for liquefied petroleum gas (LPG) storage, to natural gas storage. The Gallery 2 Project would increase the working gas capacity of Seneca Lake Project from 1.45 billion cubic feet (Bcf) to 2.00 Bcf. Arlington also requests the Commission to reaffirm Arlington’s authorization to charge market-based rates for its firm and interruptible storage and hub services.

2. The Commission grants the requested certificate authorization, subject to the conditions described herein. The Commission also approves Arlington’s request to reaffirm its market-based rate authority, as more fully discussed and conditioned below.

---


evaluate a “range of build out scenarios” extrapolated from Inergy Midstream’s statements to its shareholders. 52

75. Improper segmentation of a project occurs when interrelated projects are artificially divided into smaller, less significant components in order to avoid the NEPA requirement that an EIS be prepared for all major federal actions with significant environmental impacts. 53 The Council of Environmental Quality’s (CEQ) NEPA regulations provide guidance on when actions should be analyzed together or separately. Specifically, CEQ’s regulations provide that proposals should be analyzed in the same EIS if they are “connected” (i.e., “closely related”). 54 Actions are connected if they automatically trigger other actions that may require an EIS, cannot or will not proceed unless other actions are taken previously or simultaneously, or are interdependent of a larger action and depend on the larger action for their justification. 55

76. As explained in this order, the purpose of the Gallery 2 Project is to convert two existing salt caverns, previously used to store LPG, to natural gas storage. The Gallery 2 Project will add 0.55 billion cubic feet of working gas capacity and 0.2 billion cubic feet of base gas capacity within an existing storage facility which will be available to meet seasonal peak-day demands and help respond to market fluctuations. Inergy Midstream’s speculation that the market will require additional natural gas storage capacity utilizing solution-mined cavities at some time in the future is not a proposed project before the Commission and does not constitute a connected action. Therefore, we conclude there is no improper segmentation under NEPA.

3. Geologic Hazards

77. As described in the EA, Arlington’s storage field makes use of existing salt caverns originally developed by U.S. Salt within the Salina Salt Group, which consists of six distinct salt beds and five intervening sedimentary bedrock units of shale, siltstone and anhydrite. Production of commercial salt products is an ongoing operation by U.S. Salt within the Salina Salt Group. The closest caverns to the Gallery 2 Project caverns are Cavern Well No. 58 to the west and the Gallery 1 caverns to the east. The Gallery 2

52 Gas Free Seneca’s October 15, 2013 Comments at 8.


55 Id. § 1508.25(a)(1).
caverns (Cavern Well Nos. 30, 31, and 45) were previously utilized between 1964 and 1989 for LPG storage. Currently Arlington stores natural gas within its Gallery 1 caverns (Cavern Well Nos. 28 and 27/46) located slightly east of the proposed facilities. Gas Free Seneca comments that the EA’s analysis of geologic risks associated with Gallery 2 is too limited in its discussion of significant seismic activity, landslides, or other geologic hazards; and does not take into account the significance of geologic structure and the presence of sub-surface faulting.

78. To support its claims, Gas Free Seneca filed with the Commission reports from two geologists, Dr. Young and Dr. Clark. These reports provide a detailed discussion of the regional structural geology, and the presence of sub-surface faulting within New York State, and excerpts from several professional publications including those of a former U.S. Salt geologist, Dr. Jacoby. Dr. Clark provides a considerable discussion (including cavern completion and abandonment reports) regarding the problems associated with the development of U.S. Salt Cavern Well No. 58, and the relationship of these development problems with a coincidental seismic event in the region. Dr. Clark further discusses a release/flow of cavern brine fluid detected during a hydraulic fracturing program on U.S. Salt Cavern Well No. 29 to a point 0.5 mile from the well location. Both Dr. Young and Dr. Clark, as well as numerous other commenters, refer to a recent (September 10, 2013) low magnitude (M2.0) seismic event located about 13 miles north of the Gallery 2 Project, as evidence of the unpredictable seismicity in the region.

79. Dr. Clark points to a number of alleged deficiencies in the EA including: 1) the EA is brief and generally dismisses commenter concerns about geology, seismicity, and faulting; 2) the Commission should have recognized every element of the geologic repository (published geologic papers and articles) particular to the Gallery 2 Project caverns; 3) the EA should have expanded on comments raised about seismicity in the area; and 4) the EA gives faulting in the Gallery 2 area “short shrift”, and responds only to commenter concerns about the possibility of a large strike-slip fault (the Jacoby-Dellwig Fault) passing through one of the caverns.

80. Section B.1.3 of the EA characterizes the Gallery 2 Project area as having a low potential for seismicity, with peak ground acceleration of between 2 to 3 percent gravity. The east coast of the United States is a passive tectonic plate boundary located on the “trailing edge” of the North American continental plate, which is relatively seismically quiet. However, cycles of Appalachian mountain-building events did exist in the Gallery 2 Project area during the late Paleozoic to Mesozoic-Era, which produced compressional pressure on sediments in the basin. Earthquakes do occur in the area of Arlington’s Galley 2 Project, and within the Allegheny Plateau Physiographic Province. These events are cited in the geologic literature, and are documented by the U.S. Geological Survey (USGS). Present-day seismic activity in the region is largely due to trailing edge tectonics and residual compressional stress release from these historical geologic mountain building events.
81. The low-seismic risk discussed in section B.1.3 of the EA is supported by the published literature\textsuperscript{56} cited by Gas Free Seneca's experts, and is further supported by the low intensity of the recent (September 10, 2013) M2.0 earthquake. Magnitude 2 earthquakes are characterized as weak events with no potential for damage and little to no perceived ground shaking.

82. The Cavern Well No. 58 development problems, discussed by Dr. Clark, and its association to a coincidental seismic event was the opinion of one of U.S. Salt's consulting engineers (Mr. Larry Sevenker). Mr. Sevenker's incorrect interpretation of the Cavern Well No. 58 sonar log lead to a false conclusion that the cavern's roof had collapsed due to seismicity in the region.\textsuperscript{57} The seismic event cited in Dr. Clark's comments has never been validated and subsequent reentry into Cavern Well No. 58 and sonar logging in 2009 by U.S. Salt showed that the cavern was intact, and what was originally interpreted as a roof collapse was not.\textsuperscript{58}

83. Gas Free Seneca states that the EA's conclusions that the caverns are structurally sound relies heavily on the fact that Gallery 2 was used for years to store LPG. Gas Free Seneca states that increasing storage pressure in the caverns during debrining (dewatering), testing, and/or operation could expand and re-open an existing, unmapped assemblage of fractures. Gas Free Seneca further states that these re-opened fractures could provide preferential pathways for natural gas and/or concentrated brine water to escape and contaminate shallow, potable groundwater or make its way into Seneca Lake, thereby affecting the natural salinity of the lake rendering this potable source of drinking water unusable.

84. Dr. Clark states that the EA is brief and general in the conclusions drawn regarding geologic faults within the region, reported by U.S. Salt's geologist (Dr. Jacoby)\textsuperscript{56}


\textsuperscript{57} Larry Sevenker's January 15, 2013 Letter to NYSDEC.

\textsuperscript{58} January 24, 2014. Communication between A.J. Rana (FERC Environmental Staff Geologist) and Mr. Peter Briggs (NYSDEC, Director, Bureau of Oil & Gas Permitting and Management). See also, Arlington's June 3, 2013 Response to Staff's Engineering and Rates Data Request.
in a number of publically available professional papers. Dr. Clark states that the EA should have expanded on citizen comments raising these issues, recognizing that seismicity is a legitimate concern in the Watkins Glen Brine Field and the overall regional tectonic framework and events related to the caverns reveal the stress environment within the subsurface.

85. Dr. Clark cites the geologic literature with information showing that "both" [Gallery 2] caverns are cut by a bedding plane, low-angle thrust fault that enabled the hydraulic fracturing connection between Cavern Wells Nos. 30 and 31, and that this thrust faulting created the underlying cause for a cavern roof collapse in Cavern Well No. 30, when a 400,000 ton mass of bedrock fell from the roof of the cavern to the floor during cavern use for LPG storage. Further, Dr. Clark points out that the geologic literature describes a major strike-slip fault, the Jacoby-Dellwig Fault, cutting through geologic section [evaporites] with about 1,200 feet of horizontal displacement along the fault trend in a north direction between Gallery 2 (Cavern Well No. 31), and Gallery 1 (Cavern Well No. 28).

86. As discussed in section B.1.3 of the EA, Arlington's evaluation of well logs, isopach maps, and structure maps in the vicinity of Gallery 2 determined that there is no faulting in the Camillus Shale caprock above the proposed storage galleries. In addition, section B.1.3 of the EA states that the strike-slip fault, in which many commenters expressed their concerns that it is located beneath the Gallery 2 Project caverns, is in fact east of Gallery 2 [between Gallery 1 and Gallery 2].

87. We note the additional published literature cited by Dr. Clark's January 2014 comments which state that tear faults (small scale local strike slip faults) and thrust faults developed in the Salina Salts and the intervening rock strata between individual salt layers. However, the geologic literature cited by Dr. Clark also describes that structure contour mapping on top of the Salina Salt gives no indication of the faults breaking up the overlying bedrock. The geologic literature states that structure contour and isopach maps reveal that both the upper and lower surfaces of the salt are relatively uniform and

59 The Charles Jacoby articles.

that the top and bottom of the salt are horizontal in parallel planes.\(^{61}\) In addition, the
literature states that the evaporites located in the center of the sediments became
viscoplastic, absorbed most shock associated with the thrusting action during the paleo-
mountain building events, and at the same time acted as a lubricant in between two rigid
blocks of carbonate bedrock below and above the Salina Salt.\(^{62}\) The geologic literature
further describes the contact between the bottom salt and the underlying bedrock as sharp
and smooth, forming a plane along which the entire salt series was thrust toward the
north-northwest.\(^{63}\)

88. Dr. Clark's comments that the Salina Salt mass underwent considerable
defformation producing low-angle thrust faults and tear faults through the salt and
intervening clastic units, and that these faults have been exploited for cavern
development and connection through hydraulic fracturing. However, the bedrock units
above and below the Salina Salt sequence remains unaffected by the paleo-faulting
events, as demonstrated through isopach mapping of the Camillus Shale caprock above
the proposed storage galleries, and as noted in Dr. Jacoby's papers cited above.

89. Further, Dr. Jacoby states that failure to maintain sufficient pressure [during
hydraulic fracturing] results in the "healing" or closing in of the fractures, and that halite
crystallizes in the fractures if sufficient pressure is not maintained until the void is
completely filled. Dr. Jacoby describes this crystalline halite material as "substantially
stronger" in tension than the original salt, thus resisting refracturing, and that this healing
effect allows fractured cavities in faulted salt beds, such as those of New York, to be used
for the storage of hydrocarbons.\(^{64}\)

90. Section B.1.3 of the EA states that pressure changes in the Gallery 2 caverns
would occur gradually and that no shock or hammer effect would result in sudden
changes in the cavern pressure. Gas Free Seneca claims that hydraulic fracturing

\(^{61}\) Id.

of Inorganic Wastes, Proceedings of the Fourth Symposium on Salt*, Houston, Texas
(1973).

\(^{63}\) Jacoby, C.H., *Storage of Hydrocarbons in Bedded Salt Deposits Formed by
Hydraulic Fracturing*, Proceedings of the Third Symposium on Salt, Cleveland, Ohio,

\(^{64}\) Id.
pressures could re-open an existing assemblage of unmapped fractures; however, this ["hydraulic fracturing"] is not proposed for Arlington’s Gallery 2 Project cavern debrining and/or operational activities.

91. During Arlington’s cavern testing, pressure was applied at the well head and held for an extended period of time while the caverns and wells offset from the caverns were monitored for pressure changes. It was common practice by U.S. Salt to horizontally connect the caverns by hydraulic fracturing. However, as stated above, this is not proposed by Arlington. Dr. Jacoby states that the initial pressure required at the well head to split the salt bed is 1.05 times the vertical distance to the point at which pressure is applied and describes an initial pressure of 2,835 pounds per square inch (psi) necessary to fracture the salt at Cavern Well No. 28 (Gallery 1). 65

92. Hydraulic fracturing initiation pressures used by U.S. Salt on wells in the Arlington storage field have been in the range of 1.36 psi/foot (ft) to 1.70 psi/ft (2,500 psi to 3,500 psi at the well head) to produce the required fracturing and cavern connection results. 66 These pressures are much greater than the pressures Arlington would operate the Gallery 2 caverns, which range between 0.2 psi/ft and 0.9 psi/ft (which equates to 400 psi and 1,669 psi at the well head). Further, as discussed above, existing fractures within the Salina Salt that were previously hydraulically fractured during cavern development heal naturally and are substantially stronger in tension than the original salt. 67 The release of brine fluid from Cavern Well No. 29 was, as Dr. Clark states and what is cited in the geologic literature 68 the result of preferential fracture flow during the hydraulic fracturing in this cavern.


66 December 6, 2013. Communication between A.J. Rana (FERC Environmental Staff Geologist) and Mr. Peter Briggs (NYSDEC, Director, Bureau of Oil & Gas Permitting and Management).


93. Given the proposed operational pressures, it is unlikely that fluid (brine) migration from the Gallery 2 caverns will contaminate potable groundwater sources or Seneca Lake.

94. In consideration of our review of the geologic information provided by Gas Free Seneca's expert geologists, we restate the EA's conclusion that there will be no significant impact on environmental resources due to geologic hazards or from the geologic framework present in the Gallery 2 Project area.

4. Water Resources

95. The Schuyler County Environmental Management Council questions the fate of the brine produced during debrining of the Gallery 2 caverns, if the brine is rendered inert and environmentally safe, and if it is ultimately pumped down an abandoned salt well. The Council requested additional information regarding any increase or alteration to impervious cover, how this would impact stormwater drainage issues, how potential brine leaks and/or spills would be addressed, and the need for a stormwater mitigation plan.

96. Section B.3.5 of the EA states that U.S. Salt would temporarily store brine from the Gallery 2 caverns in its existing brine ponds and would utilize the salt in these ponds for salt product processing. In addition, as stated in section B.3.5 of the EA, U.S. Salt is required by NYSDEC to maintain the brine ponds in a leak-free condition in conjunction with its Class III underground injection control permit, and monitor the brine field with groundwater monitoring wells.

97. During the brine evaporation process, there are inorganic precipitates and insoluble material which originate in the caverns and remain behind in the evaporation process. It is common practice to return the inorganic precipitates/insoluble material to designated caverns within the brine field, in accordance with NYSDEC approval, instead of sending this material to a landfill. Currently, there are no active brine disposal wells within Schuyler County.\footnote{69} Historically, U.S. Salt did operate a brine disposal well at its Watkins Glen Plant which is the subject of Dr. Jacoby's paper cited by Dr. Clark;\footnote{70}


June 30, 2014

Mr. Blake Shoemaker
Mrs. Kathleen Shoemaker
76 Brown Road
Horseheads, NY 14845

Dear Mr. & Mrs. Shoemaker:

Governor Cuomo asked me to respond to your letter regarding the Inergy/Finger Lakes Liquified Petroleum Gas Storage project in the Town of Reading near Watkins Glen.

As you may know, this proposal has created a great degree of public interest with both support and opposition to the project. The project involves not only storage of gas in existing underground salt caverns, but the construction of two large brine holding ponds and a rail siding, truck loading area and several above ground liquified petroleum gas storage tanks. DEC staff properly required a full Environmental Impact Statement to accompany the application, and has diligently reviewed every detail of the proposal. Its proximity to Seneca Lake, its location in the Finger Lakes region, concerns about any effect on aesthetics, tourism, public safety or the wine and beer industry, as well as others have been voiced as part of the public participation process afforded by our review. DEC received over 550 comments on the application and continued the public comment phase for approximately 88 days including two public hearing dates.

My staff has taken a very hard look at all the concerns raised by the public, and has raised many concerns on its own throughout the process. Our comprehensive review has required the applicant to submit further documentation and information, such as a Quantitative Risk Assessment, revised brine pond liner designs, and additional information about cavern integrity. That detailed review is continuing, and we will not make a decision either way until staff's review is completed. DEC will authorize this project if we are confident that approval is warranted. If the review concludes that significant issues cannot be addressed to DEC's satisfaction, then the approval will not be forthcoming.
Incoming Correspondence:

I am a business owner and a resident of the Finger Lakes region, and I oppose the proposal by Crestwood Energy Partners to store natural gas and liquid petroleum gas (LPG) in the salt caverns beneath Seneca Lake.

I write to you today because I believe you also share the vision of hundreds of small business owners like me who have joined our coalition to oppose this facility. You have supported our efforts to achieve our vision through your Economic Development Council Initiative. The booming wine and agri-tourism
Industry in the Finger Lakes is a testament to the success of your support for locally lead economic development strategies in New York State. Indeed, the Finger Lakes Regional Council identified the wine and agriculture industries as a top priority because of these industries' key role supporting the Finger Lakes economy. Small businesses around the region need your continued support to ensure that our shared vision is not jeopardized by the industrialized gas storage development proposed by Crestwood.

We have worked hard to get to where we are today. And it is paying off. Finger Lakes tourism poured nearly $3 billion into the state's economy in 2012 and accounts for 58,000 jobs. Wineries employ over 1,000 people in the Finger Lakes and Seneca Lake - the largest of the Finger Lakes - is home to nearly half of all of the region's wineries. This success didn't happen by coincidence. The region has become what it is today because of the collective vision and hard work of vineyard, winery, restaurant, bed and breakfast, and countless other small business owners and public leaders who have worked together for generations to build our communities and economy around this region's natural strengths. That vision is threatened by Crestwood's proposal to turn Seneca Lake, and the Finger Lakes region, into the natural gas and LPG storage and transportation hub of the Northeast.

Allowing that to happen would put the bright future of this region in jeopardy. That is why 3 of the 4 counties surrounding Seneca Lake passed resolutions opposing the facility, why the Geneva Town Board passed a resolution opposing the facility, and why over 200 businesses in the region have joined a coalition to oppose the facility. The choice before you is simple. Will you continue to support the vision of hundreds of small businesses who have worked for generations to build a world class wine region that is the economic engine behind this area's rapidly growing agri-tourism based economy - or will you support Crestwood's vision to turn the region into a natural gas transportation and storage hub for the Northeast?
June 30, 2014

Ms. Nancy Norton
26 Quarry Road
Ithaca, NY 14850

Dear Ms. Norton:

Governor Cuomo asked me to respond to your letter regarding the Inergy/Finger Lakes Liquified Petroleum Gas Storage project in the Town of Reading near Watkins Glen.

As you may know, this proposal has created a great degree of public interest with both support and opposition to the project. As you mention, the project involves not only storage of gas in existing underground salt caverns, but the construction of two large brine holding ponds and a rail siding, truck loading area and several above ground liquified petroleum gas storage tanks. DEC staff properly required a full Environmental Impact Statement to accompany the application, and has diligently reviewed every detail of the proposal. Its proximity to Seneca Lake, its location in the Finger Lakes region, concerns about any effect on aesthetics, tourism, public safety or the wine and beer industry, as well as others have been voiced as part of the public participation process afforded by our review. DEC received over 550 comments on the application and continued the public comment phase for approximately 88 days including two public hearing dates.

My staff has taken a very hard look at all the concerns raised by the public, and has raised many concerns on its own throughout the process. Our comprehensive review has required the applicant to submit further documentation and information, such as a Quantitative Risk Assessment, revised brine pond liner designs, and additional information about cavern integrity. That detailed review is continuing, and we will not make a decision either way until staff's review is completed. DEC will authorize this project if we are confident that approval is warranted. If the review concludes that significant issues cannot be addressed to DEC's satisfaction, then the approval will not be forthcoming.

While perhaps not directly related to the concerns expressed in your letter, I have participated in the REDC process and readily acknowledge the importance of, and the pride we take in, the wine and tourism industry in the Finger Lakes Region.
I can assure you that the length of time this project has been pending is a reflection of its scope and our obligation to conduct a thorough review to protect not only the environment but public health and safety. I have every confidence that a decision with respect to this matter will be made in the near future.

Thank you for contacting the Governor relative to your concerns.

Very truly yours,

Paul J. D'Amato
Regional Director
Dear Governor Cuomo:

I am the owner of a vacation rental business in Ithaca, Stone Quarry House and a resident of the Finger Lakes region. Many of our guests come to Ithaca to enjoy the rural atmosphere and eat 'clean' food at our farm-to-table restaurants and from the many Farmer's Markets in the area. I strongly oppose the proposal by Crestwood Energy Partners to store natural gas and liquid petroleum gas (LPG) in the salt caverns beneath Seneca Lake.
I write to you today because I believe you also share the vision of hundreds of small business owners like me who have joined our coalition to oppose this facility. You have supported our efforts to achieve our vision through your Economic Development Council Initiative. The booming wine and agri-tourism industry in the Finger Lakes is a testament to the success of your support for locally lead economic development strategies in New York State. Indeed, the Finger Lakes Regional Council identified the wine and agriculture industries as a top priority because of these industries' key role supporting the Finger Lakes economy. Small businesses around the region need your continued support to ensure that our shared vision is not jeopardized by the industrialized gas storage development proposed by Crestwood.

We have worked hard to get to where we are today. And it is paying off. Finger Lakes tourism poured nearly $3 billion into the state's economy in 2012 and accounts for 58,000 jobs. Wineries employ over 1,000 people in the Finger Lakes and Seneca Lake - the largest of the Finger Lakes - is home to nearly half of all of the region's wineries. This success didn't happen by coincidence. The region has become what it is today because of the collective vision and hard work of vineyard, winery, restaurant, bed and breakfast, and countless other small business owners and public leaders who have worked together for generations to build our communities and economy around this region's natural strengths. That vision is threatened by Crestwood's proposal to turn Seneca Lake, and the Finger Lakes region, into the natural gas and LPG storage and transportation hub of the Northeast.

Allowing that to happen would put the bright future of this region in jeopardy. That is why 3 of the 4 counties surrounding Seneca Lake passed resolutions opposing the facility, why the Geneva Town Board passed a resolution opposing the facility, and why over 200 businesses in the region have joined a coalition to oppose the facility. The choice before you is simple. Will you continue to support the vision of hundreds of small businesses who have worked for generations to build a world class wine region that is the economic engine behind this area's rapidly growing agri-tourism based economy - or will you support Crestwood's vision to turn the region into a natural gas transportation and storage hub for the Northeast?

People are not attracted to natural gas compressor stations, open brine pits, loud train depots, 60 foot flare stacks and local roads clogged with heavy truck traffic transporting LPG. The proposed storage facility will not only fundamentally alter the rural community character of the region and threaten our local economy, it also comes with serious safety and environmental concerns. Numerous reports indicate that the region's geology is not stable for natural gas and LPG storage. This has been demonstrated by a 2.0 earthquake near the proposed facility and massive structural failures within the caverns themselves - all documented now with the DEC. It would take only one accident?natural or man-made?to compromise the safety of the community, pollute Seneca Lake - the drinking water source for over 100,000 people - destroy the region's reputation, and put the future we have worked to build for generations into jeopardy.

We cannot take that risk. The health and safety of our communities and the economic future of this region depend upon your leadership.

I appreciate your attention to this important issue and respectfully request that you deny any permits to Crestwood and its subsidiaries related to the proposed storage project.

Sincerely,
Honorable George D. Maziarz  
New York State Senate  
708 Legislative Office Building  
Albany, NY 12247  

Dear Senator Maziarz:  

Thank you for your letter regarding the Inergy/Finger Lakes Liquified Petroleum Gas Storage project in the Town of Reading near Watkins Glen, New York.  

As you know, this proposal has generated significant public interest. The project involves not only storage of gas in existing underground salt caverns, but the construction of two large brine holding ponds and a rail siding, truck loading area and several above ground liquified petroleum gas storage tanks. DEC staff properly required a full Environmental Impact Statement to accompany the application and has diligently reviewed every detail of the proposal.  

My staff has taken a very hard look at all the concerns raised by the public and has raised many concerns on its own throughout the process. Our comprehensive review has required the applicant to submit further documentation and information, such as a Quantitative Risk Assessment, revised brine pond liner designs, and additional information about cavern integrity. That detailed review is continuing and we will not make a decision until staff’s review is completed. DEC will only authorize this project if we are confident that approval is warranted.  

I can assure you that my staff and I are cognizant of the concerns raised in your letter and of the recent actions by both FERC and the Schuyler County Legislature. Of course, our decision must be made solely upon the application record before us. I can also assure you that the length of time this project has been pending is a reflection of its scope and our obligation to conduct a thorough review to protect not only the environment but public health and safety.  

With respect to the specific questions at the end of your letter, my responses in the same order as the questions appear are:  

1. DEC staff have now received all of the information requested of the applicant;  
2. While I appreciate your offer of assistance, there are no actions by your committee that are necessary at this time;  
3. A decision should be available later this year.  

Thank you for contacting me relative to your concerns.
Commissioner Joseph Martens  
New York State Department of Environmental Conservation  
625 Broadway  
Albany, NY 12233-1010  

Re:  *Finger Lakes LPG Storage, LLC*  

Commissioner Martens:  

I am writing as a follow up to my letter dated May 30, 2013, regarding the above referenced project. As the latest evidence of the importance and support of this energy storage project, the Schuyler County Legislature recently passed a resolution supporting the Finger Lakes LPG Storage project (DEC Facility No. 8-4432-00085). In passing this resolution (attached), the appropriations and policy-making body of the project’s “home county” calls upon the Department to finalize its review, make a final SEQRA determination and issue the long-overdue permit required for the project. As Chairman of the Senate Energy Committee, I respectfully request an update on the status of the Department’s review and urge the Department to focus on the public’s interest and issue the permit required by this critical storage infrastructure project.  

I recognize that the Department’s position on any matter under its review is that the matter remains “under review” until it is approved or denied. At the same time, with respect to the Finger Lakes LPG Storage project, my understanding is that the administrative review has long been completed. In fact, I understand that the staff assigned to the project completed its review and recommended project approval to Central Office roughly one year ago, and is otherwise prepared to notice the project’s Final Supplemental Environmental Impact Statement and issue the underground storage permit if given the go-ahead by Central Office.  

It has been nearly five years since the project’s sponsor submitted its application. The length of this delay cannot be justified. Unfortunately, consumers, businesses and local taxing jurisdictions are paying the price for the Department’s inaction.
based on NYSERDA-published data, the New York Propane Gas Association estimates that propane supply delivery constraints resulted in nearly $100 million of higher costs for New Yorkers this past winter alone, which could have been avoided if the Finger Lakes LPG Storage project had been operational. I have serious concerns that propane consumers—many of whom live in economically-fragile parts of rural Upstate New York—will continue to needlessly pay higher costs each winter should the Department not permit this project immediately;

tax revenue shortfalls are causing many local taxing authorities to forego infrastructure improvements, and the Schuyler County Legislature’s resolution indicates that the Finger Lakes LPG Storage project would add more than $20 million to the local tax base. Revenue certainty is crucial to any local government’s ability to budget and fund needed public services, and the Department’s continued inaction on this project places Schuyler County and the other local taxing jurisdictions in a “cannot win” position when the project applicant is ready and willing to make capital investments; and

the business community needs regulatory certainty before businesses can be expected to make capital investments and hire local employees, and the Department’s inaction on the Finger Lakes LPG Storage project contradicts Governor Cuomo’s goal of attracting business to our state. The truth is, we cannot say that New York is truly “Open for Business” when a company offers to construct a project to the most rigorous design and environmental standards possible (to Staff’s satisfaction, apparently), but the State fails to take a position on the project for almost five years.

Moreover, recent action by the Federal Energy Regulatory Commission (FERC) also supports the Finger Lakes LPG Storage project. The FERC, working with the Department as a cooperating agency, last month authorized an expansion of a natural gas storage facility located at the same site that uses underground caverns located in the same salt formation as those proposed for LPG storage in the Finger Lakes LPG Storage project. In approving the natural gas storage expansion, the FERC rejected or rebutted substantially all claims voiced by project opponents (many of which have also been made against the Finger Lakes LPG Storage project) relating to geology, public health and safety, visual impact, and the environment. A copy of the FERC order is also attached for your convenience.

The recent Schuyler County Legislature resolution and FERC order are reminders that the underground storage of LPG in the Finger Lakes region is nothing new. The salt formation in the Watkins Glen brine field has been used for underground gas storage (LPG and natural gas) since 1964 without incident, and another underground LPG storage facility located adjacent to the proposed Finger Lakes LPG Storage project has been operated safely since 1985. Moreover, two other underground storage facilities (including the Bath storage facility owned by the project applicant) located near the project site have been safely receiving by rail and storing LPG in salt caverns for decades.

I again implore the Department to expedite its process of making a final determination on the pending permit application for the Finger Lakes LPG storage facility. In addition, given the lack of formal guidance provided to the public, I am asking at this time for written answers to the following questions:
• Has the Department received all of the information needed to make a determination on this project? If not, what information is the Department missing?
• How can my committee be of assistance in this matter?
• What is the timeline for the Department making its decision on this project?

I look forward to receiving an update from you in writing on these outstanding items at your earliest convenience.

Sincerely,

[Signature]
George D. Maziarz
State Senator, 62nd District

cc: Senate Energy Committee Members
    John B. Rhodes, President and CEO, NYSERDA
    Tom Trantor, Co-Chair, Regional Economic Development Council of the Southern Tier
    Harvey Stenger, Co-Chair, Regional Economic Development Council of the Southern Tier
Resolution No. 213
SCHUYLER COUNTY LEGISLATURE

Regular Meeting
June 9, 2014

Intro. No. 27
Approved by Committee DAF - Individually
Approved by Co. Atty. GBR

Motion by Gifford
Seconded by Field
Vote: 5 Ayes to 3 Noes
Name of Noes Halpin, Lausell, Howell

RE: RESOLUTION SUPPORTING FINGER LAKES LPG STORAGE'S LIQUID PETROLEUM GAS PROJECT AND CALLING FOR GOVERNOR CUOMO TO ALLOW THE DEPARTMENT OF ENVIRONMENTAL CONSERVATION TO ISSUE NECESSARY APPROVALS

WHEREAS, in October 2009, Finger Lakes LPG Storage ("Finger Lakes"), a subsidiary of Crestwood Midstream Partners LP (formerly known as Inergy Midstream, L.P.) submitted as application to the New York State Department of Environmental Conservation ("DEC") to construct and operate an underground Liquid Petroleum Gas ("LPG") facility in caverns developed on US Salt property in the Town of Reading (the "Project"), and

WHEREAS, the caverns located on US Salt property have been used for underground gas storage (LPG and natural gas) since 1964 without incident, and another underground LPG facility adjacent to Finger Lakes’ proposed Project in the Town of Reading has also operated without incident since 1985, and

WHEREAS, the DEC has been lead agency for the Project under the State Environmental Quality Review Act ("SEQRA") since February 2010; and after public input, the DEC issued a Final Scoring Document outlining the information Finger Lakes had to include in an Environmental Impact Statement ("EIS"), and

WHEREAS, in response to DEC’s requests and that of the public, additional information was submitted by Finger Lakes regarding the proposed brine ponds and other aspects of the Project, including voluntary concessions by Finger Lakes that would reduce both the aggregate size and area of its proposed brine ponds and the “Project’s overall environmental footprint, and

WHEREAS, additionally, in response to requests made by numerous elected officials, Finger Lakes retained a qualified expert to perform a Quantitative Risk Analysis and submitted its report to DEC in February 2012, and

WHEREAS, in May 2012, Finger Lakes received its authorization from the U.S. Corps of Engineers for the Project, after minimizing almost completely the impact on wetland and streams, and

WHEREAS, in September 2012, Finger Lakes submitted final engineering (for the brine ponds) and storm water plans to the DEC; and in March 2013, the New York Geologist advised the DEC of its approval of the Project, consistent with the requirement in the Environmental Conservation Law that he must approve of an underground storage project before DEC issues a permit, and

WHEREAS, in the State Geologist’s letter, he stated:

[T]here does not appear to be any geological reason to deny their request to utilize the geologic formations specified for the storage of liquefied petroleum gas. Their demonstration of both cap rock and cavern integrity is complete, and with a properly developed monitoring program, Finger Lakes’ proposed use of the Salt Point caverns is geologically sound. Further, in our review of the application materials, it has been demonstrated that the caverns in this salt formation have a longstanding operational record as a gas storage facility without any geologic evidence of incompatibility forth is intended purpose, and

WHEREAS, the County understands that the DEC Staff assigned to this Project has completed its review of the Project and is ready to finalize the SEQRA process and make a permit decision, and
WHEREAS, the Schuyler County Legislature through the above citations and their own independent review is satisfied that Finger Lakes’ application has demonstrated that underground storage of LPG can be done safely and without impact to drinking water sources or to Seneca Lake, and

WHEREAS, the caverns in this project are located in the same salt formation and share a similar makeup with the Arlington Storage Company’s proposed natural gas expansion project that has received approval by the Federal Energy Regulatory Commission (FERC), and

WHEREAS, as part of the review and subsequent approval, FERC has rejected or rebutted substantially all opposition comments and point raised by Gas Free Seneca, and

WHEREAS, local emergency response personnel, including the local fire chief and the Emergency Management network, have stated that first responders are well trained and have worked with Crestwood and others, to understand local facilities to allow an appropriate response in the unlikely event of an accident, and

WHEREAS, in addition to the economic reuse of depleted salt caverns developed by US Salt and its predecessors, the Project will add several high-paying jobs and in excess of $20 million in in tax base, and

WHEREAS, this project has direct benefits to the residents of Schuyler and surrounding counties in ensuring a constant stable supply of propane through winter months, potentially creating significant residential and commercial savings in future years, and

WHEREAS, the Schuyler County Legislature considers the safety and wellbeing of its residents and the economic value of the tourism to be among its greatest priorities and is satisfied that the proposed project will not adversely impact either, and

WHEREAS, although the Schuyler County Legislature has to date elected not to take a position on the Project based on its faith in, and assumed objectivity of, the DEC permitting process, it has become clear to the Schuyler County Legislature that notwithstanding the facts set forth above, those opposing the Project have successfully lobbied to the Governor and DEC to simply not make a decision on Finger Lakes’ application.

NOW, THEREFORE, BE IT RESOLVED, based on the facts set forth above, the Schuyler County Legislature concludes that Finger Lakes, through its submissions and compliance with all regulatory requests, has demonstrated that it has minimized impacts to the maximum extent practicable and that the caverns to be used for LPG storage are well-suited for such use, and

BE IT FURTHER RESOLVED, that given all of the information supplied to the DEC supporting the Project and the time which has elapsed since the Application was submitted and the public hearings held, the Schuyler County Legislature hereby requests that the DEC finalize its review and make a final SEQRA determination and issue Finger Lakes the permit requested, and

BE IT FURTHER RESOLVED, that Schuyler County’s Emergency Management Director is hereby directed to prepare and incorporate an appendix to the Hazardous Materials Plan addressing transportation related incidents involving the release of hazardous materials, specifically Liquid Petroleum Gas, and

BE IT FURTHER RESOLVED, that a copy of this resolution be sent to Governor Andrew M. Cuomo, DEC Commissioner Joseph Martens, State Senator Thomas F. O’Mara, Assemblyman Philip A. Palmesano, and elected officials in the Town of Reading and Village of Watkins Glen.

STATE OF NEW YORK
) SS:
COUNTY OF SCHUYLER
)

I, Jamee L. Mack, Deputy Clerk of the Schuyler County Legislature, do hereby certify that the foregoing is a true and exact copy of resolution duly adopted by the County Legislature on June 9, 2014.

IN TESTIMONY WHEREOF, I have hereunto set my hand and the seal of said County Legislature at Watkins Glen, NY.

[Signature]

Jamee L. Mack, Deputy Clerk

[Date]
ORDER ISSUING CERTIFICATE AND REAFFIRMING MARKET-BASED RATES

(Issued May 15, 2014)

1. On February 26, 2013, Arlington Storage Company, LLC (Arlington) filed an application pursuant to section 7(c) of the Natural Gas Act (NGA)\(^1\) and Part 157 of the Commission's regulations\(^2\) for authorization to expand its Seneca Lake Storage Project (Seneca Lake Project), located in Schuyler County, New York. The proposed expansion project, referred to as the Gallery 2 Expansion Project (Gallery 2 Project), involves the conversion of two interconnected bedded salt caverns (collectively known as Gallery 2), previously used for liquefied petroleum gas (LPG) storage, to natural gas storage. The Gallery 2 Project would increase the working gas capacity of Seneca Lake Project from 1.45 billion cubic feet (Bcf) to 2.00 Bcf. Arlington also requests the Commission to reaffirm Arlington's authorization to charge market-based rates for its firm and interruptible storage and hub services.

2. The Commission grants the requested certificate authorization, subject to the conditions described herein. The Commission also approves Arlington's request to reaffirm its market-based rate authority, as more fully discussed and conditioned below.

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\(^1\) 15 U.S.C. § 717f(c) (2012).
I. **Background**

3. Arlington, a wholly-owned subsidiary of Crestwood Equity Partners LP (Crestwood), is a natural gas company organized and existing under the laws of Delaware and is a developer of underground natural gas storage facilities in New York. Arlington offers firm and interruptible natural gas storage services in interstate commerce through the Seneca Lake Project. The Seneca Lake Project is located in Schuyler County, New York, on property owned by Arlington and abutted by property owned by Arlington’s affiliate, U.S. Salt, LLC (U.S. Salt) a salt mining company. The Seneca Lake Project interconnects with Dominion Transmission, Inc. and Millennium Pipeline Company, LLC, interstate pipeline systems.

A. **Proposal**

4. The Seneca Lake Project, which is within the Watkins Glen Brine Field, currently consists of two, interconnected, bedded salt caverns, known as Gallery 1, connected to a compressor station by a 16-inch-diameter pipeline. The Seneca Lake Project has a working gas capacity of 1.45 Bcf, with maximum daily injection and withdrawal capabilities of 72,500 dekatherms (Dth) per day and 145,000 Dth per day, respectively.

5. Arlington proposes to expand its Seneca Lake Project by converting two other existing interconnected bedded salt caverns, Gallery 2, previously used for LPG storage, to natural gas storage service. When the conversion is complete, the Gallery 2 caverns will have a total working gas capacity of approximately 0.55 Bcf, resulting in the Seneca Lake Project having a total working gas capacity of 2.00 Bcf and a total natural gas storage capacity of 3.09 Bcf. Arlington does not propose to change its certificated maximum daily injection or withdrawal rates.

6. The Gallery 2 Project construction and operation will occur on lands owned by Arlington. As part of the expansion project Arlington proposes to: (1) construct approximately 170 feet of 16-inch-diameter pipeline and 330 feet of 8-inch-diameter pipeline to connect Well Nos. 30A and 31A to its existing 16-inch-diameter pipeline; (2) install a 400 horsepower (hp) electric motor-driven compressor, near the Gallery 2

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3 In May 2013, Crestwood acquired Inergy, LP, previous parent company of Arlington.

wellheads, to be used for gas injections during the debrining process and to achieve the maximum allowable operating pressure (MAOP) on injections once the caverns are placed into natural gas storage service; (3) construct temporary debrining facilities, consisting of a 75 hp electric motor brine pump and brine pipeline; (4) install electric and instrument air lines connecting the Gallery 2 caverns to the Seneca Lake Project compressor station; and (5) use Cavern Well No. 45 for debrining and future monitoring of the caverns.5

7. Currently, the Gallery 2 caverns have five existing wellheads, Cavern Well Nos. 30, 30A, 31, 31A, and 45 but Arlington will only use 30A and 31A as injection/withdrawal wells, and Cavern well No. 45 as the observation well for the Gallery 2 Project. Cavern Well Nos. 30 and 31 will be permanently plugged and abandoned.6 As noted above, Cavern Well No. 45 will be initially used to debrine Gallery 2 and be used as an observation well going forward. In 2012, Arlington drilled Cavern Well Nos. 30A and 31A prior to the filing of this application, mistakenly assuming it was acting under its blanket certificate authority.7 Arlington now asks for certification of these wells as part of the Gallery 2 Project.

8. The Gallery 2 caverns are currently full of brine. The debrining process involves injecting natural gas into Well Nos. 30A and 31A to displace the brine from the caverns through Cavern Well No. 45. Arlington estimates that it will remove one million barrels

5 We note that Arlington also requested authorization to plug and abandon two of its existing wells (Well Nos. 30 and 31) which were formerly used in the operation of the Gallery 2 caverns’ brine production and LPG storage operation. Since these wells were never certificated or used for jurisdictional purposes, no abandonment authorization is required.

6 Cavern Well Nos. 30, 31, and 45 were plugged in 1989 when LPG service was discontinued, Footnote 2 of application. Arlington reopened the wells for the purpose of evaluating each well’s suitability for use in natural gas operation.

7 Inasmuch as Arlington’s construction actions associated with the Gallery 2 expansion were carried out without appropriate authorization from the Commission, we find that Arlington violated section 7(c) of the NGA and its Part 157 blanket construction certificate issued in Docket No. CP10-99-000. However, since Arlington acted in good faith based on its incorrect interpretation of the existing regulations and neither customers nor the environment were harmed by the activities, we find that no enforcement action is necessary with respect to the prior activities.
of brine from Gallery 2. The brine will be conveyed to U.S. Salt's existing brine processing facilities through Arlington's proposed temporary brine pipeline.

9. Arlington states that the Gallery 2 Project will increase the Seneca Lake Project's high deliverability gas storage capacity by roughly one-third. Arlington contends that the added storage capacity will enhance reliability by allowing more gas to be delivered from storage directly into a highly weather-sensitive market area on peak days.

10. Arlington held a non-binding open season from March 5 to March 29, 2013, for 0.55 Bcf of expansion firm storage capacity at the Seneca Lake Project. Arlington received expressions of interest from six prospective customers in the total amount of 6.2 Bcf, more than eleven times the amount of firm storage capacity offered. Arlington states that it is evaluating the open season results and plans to commence negotiations for rates and terms of service with qualified prospective customers.

B. Requests for Waivers

11. Because it requests affirmation of its market-based rate authority, Arlington requests that the Commission waive certain filing, accounting, and reporting requirements including: (1) section 157.6(b)(8) (applicants to submit cost and revenue data); (2) sections 157.14(a)(13), (14), (16), and (17) (cost-based exhibits); (3) section 157.14(a)(10) (gas supply data); (4) the accounting and reporting requirements of Part 201 and sections 260.1 and 260.2 (Form Nos. 2 and 2A); (5) section 284.7(e) (reservation charge); and (6) section 284.10 (straight fixed-variable rate design methodology).

II. Notice, Interventions, and Comments

12. Notice of Arlington's application was published in the Federal Register on March 12, 2013 (78 Fed. Reg. 15,712). Timely, unopposed motions to intervene and comments in opposition were filed by the Damascus Citizens for Sustainability, Inc., GasFree

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8 In conjunction with its open season, Arlington also provided customers that hold firm storage service agreements with the Seneca Lake Project an opportunity to turn back capacity, but received no requests to do so.

9 Arlington's June 3, 2013 Response to Staff's Engineering and Rates Data Request at 8, response (b).

10 Arlington's April 10, 2013 Response to Initial Round of Comments on Application at Attachment A, Submission of Open Season Results.
Seneca, and NYH20, Inc. Timely, unopposed motions to intervene are granted by operation of Rule 214 of the Commission's Rules of Practice and Procedure. Over 400 people filed comments in opposition to the project. Many of these comments were specifically about an adjacent, non-jurisdictional LPG project (Finger Lakes Project) proposed by Finger Lakes LPG Gas Storage, LLC, an affiliate of Arlington. That project is under evaluation by the New York State Department of Environmental Conservation (NYSDEC). While the Gallery 2 Project is not associated with the Finger Lakes Project, the two projects are proposed to be located in the same salt formation.

13. The New York Public Service Commission, Pivotal Utility Holdings, PSEG Resources & Trade, LLC, and Peter King filed untimely motions to intervene. Mr. King included comments with his motion to intervene, raising environmental issues. We will grant these late-filed motions to intervene, since to do so at this stage of the proceeding will not unduly delay, disrupt, or otherwise prejudice the proceeding or other parties.

III. Discussion

14. Since the proposed facilities will be used to transport natural gas in interstate commerce, subject to the jurisdiction of the Commission, the construction and operation of the facilities are subject to the sections 7(c) and (e) of the NGA and to the Commission's regulations.

A. Certificate Policy Statement

15. The Commission's Certificate Policy Statement provides guidance as to how we will evaluate proposals for new construction. The Certificate Policy Statement provides guidance as to how we will evaluate proposals for new construction.

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11 Earthjustice files on behalf of Gas Free Seneca.

12 18 C.F.R. § 385.214(c) (2013).

13 NYSDEC filed a motion to intervene but withdrew its intervention on April 26, 2013 when it asked for Cooperating Agency Status.


establishes criteria for determining whether there is a need for a proposed project and whether the proposed project will serve the public interest. The Certificate Policy Statement explains that in deciding whether to authorize the construction of major new natural gas facilities, the Commission balances the public benefits against the potential adverse consequences. The Commission’s goal is to give appropriate consideration to the enhancement of competitive transportation alternatives, the possibility of overbuilding, subsidization by existing customers, the applicant’s responsibility for unsubscribed capacity, the avoidance of unnecessary disruptions of the environment, and the unneeded exercise of eminent domain in evaluating construction of new natural gas facilities.

16. Under this policy, the threshold requirement for natural gas companies proposing new projects is that the applicant must be prepared to financially support the project without relying on subsidization from its existing customers. The next step is to determine whether the applicant has made efforts to eliminate or minimize any adverse effects the project might have on the applicant's existing customers, existing storage facilities in the market and their captive customers, or landowners and communities affected by the construction. If residual adverse effects on these interest groups are identified after efforts have been made to minimize them, the Commission will evaluate the project by balancing the evidence of public benefits to be achieved against the residual adverse effects. This is essentially an economic test. Only when the benefits outweigh the adverse effects on economic interests will the Commission proceed to complete the environmental analysis where other interests are considered.

17. As indicated above, the threshold requirement under the Certificate Policy Statement is that the applicant must be prepared to financially support the project without relying on subsidization from its existing customers. As authorized below, Arlington will provide services from the Gallery 2 Project at market-based rates. As a consequence, Arlington will assume all financial risk associated with the operation of Gallery 2 at the Seneca Lake Facility and there can be no subsidization of the new service by any existing customers. Thus, the Commission finds that Arlington has satisfied the no subsidy threshold requirement of the Certificate Policy Statement.

18. The Gallery 2 Project will not have adverse impacts on existing storage facilities or their customers, since the project is located in a competitive market area in which competitive alternatives exist. With respect to the project’s impacts on landowners and communities, Arlington states in its application that all construction and operation of the project will be located on lands owned by Arlington, and surrounded by lands owned by Arlington’s affiliate, U.S. Salt.17 Arlington asserts that all project facilities are located

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17 Arlington’s Application at 13.
well away from property of adjacent landowners and from any noise sensitive areas. Furthermore, as discussed below, the construction for this project will be minimal as the caverns already exist and the majority of the facilities are either underground or temporary.

19. Gas Free Seneca asserts that Arlington’s non-binding expressions of interest are not enough to establish a need for the facility. Gas Free Seneca also states that Arlington has not shown a need for the project because it did not establish that the natural gas stored in Gallery 2 would be used to meet seasonal peak-day demands. Arlington states that after its open season, it has potential customers for over eleven times the amount of firm storage capacity proposed at the storage facility. While Arlington has no precedent agreements, Arlington contends that the expressions of interest demonstrate a market demand and need for the project. Under the Certificate Policy Statement, we do not require an applicant to submit precedent agreements or service agreements with its certificate application in order to demonstrate the need for a project. Nor do we require a demonstration that gas transported will be used for any specific purpose. Arlington held an open season and received expressions of interest for over eleven times the amount of capacity available at the project. Notwithstanding that no precedent agreements have been signed, the response demonstrates a significant market interest in the availability of additional Northeast market area storage. We find that Arlington has satisfied our requirements for demonstrating a need for the project.

20. Based on the above findings, the Commission concludes that Arlington has demonstrated sufficient need for the project, given it will have no identifiable adverse impacts on existing customers, other pipelines, landowners, or communities. Thus, consistent with the Certificate Policy Statement and section 7(c) of the NGA, the Commission concludes that approval of Arlington’s proposal is required by the public convenience and necessity, subject to the conditions discussed below.

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18 Id. at 3.


20 Arlington’s June 3, 2013 Response to Staff’s Engineering and Rates Data Request at 8, response (b).

B. Engineering Issues

21. Our review of the engineering data submitted by Arlington indicates that Arlington’s proposal to convert Gallery 2 from LPG to natural gas storage is technically sound and feasible. Our review further confirms that the Seneca Lake Project, upon completion of the expansion, is properly designed to provide a total of 2.0 Bcf of total working gas capacity, with a withdrawal capacity of 145,000 Dth per day; that the geological and engineering parameters for the proposed underground salt cavern gas storage facilities are well defined; and that the cavern locations are well within the design criteria and confinement of the salt formation.

22. The capacity of the Seneca Lake Project after Arlington’s proposed expansion will be as follows:

<table>
<thead>
<tr>
<th></th>
<th>Gallery 1</th>
<th>Gallery 2</th>
<th>Seneca Lake</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Gas capacity, Bcf</td>
<td>0.89</td>
<td>0.20</td>
<td>1.09</td>
</tr>
<tr>
<td>Working Gas capacity, Bcf</td>
<td>1.45</td>
<td>0.55</td>
<td>2.0</td>
</tr>
<tr>
<td>Total Gas capacity, Bcf</td>
<td>2.34</td>
<td>0.75</td>
<td>3.09</td>
</tr>
<tr>
<td>Maximum pressure, psi/ft</td>
<td>0.9</td>
<td>0.9</td>
<td></td>
</tr>
</tbody>
</table>

23. Arlington proposes to cycle Gallery 2 between 0.9 psi per foot and 0.2 psi per foot, as measured at the casing shoe of the monitoring well, Cavern Well No. 45. Because salt deforms plastically when under a pressure differential, all caverns will shrink over time. The Interstate Oil and Gas Compact Commission’s Hydrocarbon Storage in Mined Caverns Report (IOGCC Report) states that monitoring to demonstrate cavern stability and successful hydrodynamic containment should be carried out throughout the life of the facility. We have reviewed the sonar survey and mechanical integrity test (MIT) data submitted by Arlington. This information established the size, shape, and volume of

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22 See Thomas, Robert and Gehle, Richard, A Brief History of Salt Cavern Use, Solution Mining Research Institute, 2000 (“large volume losses due to salt creep have occurred in natural gas caverns”).

Gallery 2 and demonstrated the ability of the cavern to hold pressure. We will require Arlington to conduct annual inventory verification tests, and every five years, sonar surveys or other tests as approved by the Commission, to monitor the caverns’ size, shape, and roof to ensure the integrity of the caverns or to detect any lost or migrated gas (Engineering Condition 5). In addition, the engineering conditions set forth in Appendix A of this order will apply to both Gallery 1 and Gallery 2, unless otherwise specified.

24. Gas Free Seneca filed comments on the geology of Arlington’s caverns. Comments about the age of the caverns and wells, the Jacoby-Dellwig Fault and a connection between Gallery 1 and Gallery 2; the cavern roof collapse in Cavern Well No. 30 and the integrity of Gallery 2; and the salt pillar thickness will be discussed below. We will discuss the rest of Gas Free Seneca’s comments in the environmental discussion.

25. Regarding Gas Free Seneca’s comments on the age of Gallery 2 caverns, we are not aware of any instances where cavern age affected the integrity of a cavern or a cavern’s ability to hold natural gas. Therefore, we conclude the age of the Gallery 2 caverns is not an integrity issue. However, the age of a well that penetrates a cavern can be an issue. As stated above, Arlington determined that the ages and condition of Cavern Well Nos. 30 and 31 made them unsuitable for use as injection/withdrawal wells in natural gas storage operations. Arlington proposes to permanently plug and abandon Cavern Well Nos. 30 and 31. Arlington drilled two new wells, Cavern Well Nos. 30A and 31A, completing them in accordance with current industry standards. Arlington determined that the size, casing, and wellbore condition of Cavern Well No. 45, despite its age, made it suitable for use in debrining the Gallery and as an observation well for Gallery 2. As part of the engineering requirements in Appendix A, we require Arlington to conduct periodic assessments of all the cavern wells to ensure the cement/casing bonds have not been compromised (Engineering Conditions 4 and 5).

26. Regarding the Jacoby-Dellwig Fault, we acknowledge its presence located east of brine Cavern Well Nos. 29, 37, and 41, which puts it west of Gallery 1 and east of Gallery 2. We also acknowledge that a surface brine flow event occurred while Cavern Well No. 29, located south of the Galleries and not part of either Gallery, was being constructed because its hydraulic fractures apparently intersected the Jacoby-Dellwig fault. However, natural gas has been stored in Gallery 1 with no evidence of leaking, and pressure testing results indicated no pressure loss in either Gallery. 24 Further, neither Gallery intersects with the fault, and any hydraulic fractures created during the construction of the two Galleries would have long since healed due to the salt’s inherent plasticity, as explained below. In addition, the structure contour map on the top of the

24 Arlington’s January 2, 2014 Response to Engineering and Data Request at 2.
Salt gives no indications of faults breaking into the overlying sediments. Therefore, all of the discussions indicate faulting is confined to the salt and the intervening rock layers. Furthermore, the cross-sections (one North-to-South and the other West-to-East) illustrate the absence of faulting and the uniformity of the Camillus Shale caprock in the vicinity of Gallery 2. Finally, the seismic activity in the area around Gallery 2 is low, as discussed below in the environmental section. Based on our analysis of the information in the record, we conclude the presence of the Jacoby-Dellwig fault near the Seneca Lake Project does not compromise the integrity of either Gallery. However, to ensure continued operational integrity, we will require Arlington to monitor both Galleries for any gas loss, and determine how any such gas escaped, and where it has gone (Engineering Condition 7). We will also require Arlington to monitor the surface in and immediately around the Seneca Lake Project facility for any surface expression of gas migration (Engineering Condition 7).

27. We note the comments made by Gas Free Seneca’s geologist Dr. Clark regarding the environmental assessment’s (EA) omission of the Cavern Well No. 30 roof collapse event discussed in the geologic literature by former U.S. Salt Geologist Dr. Jacoby. Historical roof collapse was the subject of an engineering data request, issued by Commission staff to Arlington on May 15, 2013. Arlington responded to this and other engineering questions on June 3, 2013, stating that, to their knowledge, there have been no roof failures in Galleries 1 or 2, or in any other cavern within the Watkins Glen Brine Field in which natural gas or natural gas liquids have been stored.

25 To support its claims, Gas Free Seneca filed with the Commission reports from two geologists, Dr. Richard Young (Dr. Young), Professor Emeritus of Geological Sciences at the State University of New York, and Dr. H.C. Clark (Dr. Clark), retired Professor of Geology and Geophysics at Rice University. These reports provide a detailed discussion of the regional structural geology, and the presence of sub-surface faulting within New York State, and excerpts from several professional publications including those of a former U.S. Salt geologist, Dr. C.H. Jacoby (Dr. Jacoby).


27 FERC’s May 15, 2013 Engineering and Rates Data Request.

28 Arlington’s June 3, 2013 Response to Staff’s Engineering and Rates Data Request at 4.
28. Dr. Jacoby's literature states that Cavern Well No. 30 experienced the fall of a 400,000 ton block of rock from the roof during the time Gallery 2 was used for LPG storage. The process of cycling LPG, a liquid, involves the displacement of two immiscible\(^{29}\) liquids. In LPG storage, after cavern development, LPG is injected, displacing the brine. To withdraw the LPG, brine is injected, displacing the LPG. Dr. Jacoby's literature states that unless saturated brine is used continually in recycling product (LPG), there is a distinct possibility of undermining fault blocks, and even when saturated brine is used as a recycling fluid, there would remain some minor quantities of salt that would continue to be dissolved. As described by Dr. Jacoby, this dissolution of salt and the resultant Cavern Well No. 30 roof collapse occurred during the recycling of brine used to store LPG in Gallery 2.\(^{30}\)

29. As discussed in section A.4.0 of the EA, Arlington proposes to convert Gallery 2 to store natural gas in vapor form, not LPG or other natural gas liquids. In natural gas storage, natural gas is used to completely displace the brine from the cavern. Natural gas is cycled in and out of the cavern through pressure difference. Brine is not reinjected into the cavern as part of the cycling process. Gallery 2 is currently full of brine, as it is no longer in LPG service. Once the Gallery is debrined (dewatered), as described in section A.6.0 of the EA, natural gas will be stored within the caverns. Recycling of brine, either saturated or undersaturated, is not within the scope of Arlington's Gallery 2 Project, and is not consistent with the operations of natural gas storage within Gallery 2. Thus, once dewatered further dissolution of the salt in the Gallery will not occur.

30. Gas Free Seneca claims that salt bed caverns found at Gallery 2 provide a less comprehensive seal when compared to salt-dome cavern integrity, and that this must be considered along with the role of geologic faulting in the site area and within the caverns. Cavern integrity is evaluated on an individual basis, taking into account, among other things, all geological information, including the type of formation, i.e. bedded salt cavern or salt dome. Based on all the information filed, there is no physical reason to conclude that the bedded salt caverns of Gallery 2 do not have a comprehensive integrity. As discussed in section B.1.3 of the EA, Arlington's evaluation of well logs, isopach maps, and structure maps in the vicinity of Gallery 2 determined that there is no faulting in the

\(^{29}\) Incapable of mixing together.

Camillus Shale caprock above the proposed storage galleries. Further, as discussed in the environmental section below, the geologic literature states that structure contour and isopach maps reveal that both the upper and lower surfaces of the salt are relatively uniform, that the top and bottom of the salt are horizontal in parallel planes, and the faulting occurred within the salt mass between these over and underlying bedrock units. In addition, the brine pressure test conducted in Gallery 2 showed no loss, indicating the Gallery has integrity. We find no indication that Arlington’s Gallery 2 Project caverns do not have a comprehensive seal and integrity when compared with caverns developed in salt domes.

31. However, as cavern integrity is an issue we are always concerned about, we will require Arlington to conduct a new sonar survey of Gallery 2, through all three cavern wells, to obtain the current size of the gallery, the size and shape of the rubble pile, and the shape of the roof around each well (Engineering Condition 3). Arlington will need to file the results of this survey before dewatering can commence. In addition, we require Arlington to monitor the roof and integrity of the caverns through either periodic sonar surveys or other Commission approved cavern integrity monitoring plan, as stated in Appendix A. This monitoring program will apply to both Gallery 1 and Gallery 2.

32. Generally, the Commission will reference state regulations governing the minimum distance between caverns needed to ensure that operations in one cavern do not impact the integrity of any adjacent cavern. If a state does not have those types of regulations, the Commission uses a minimum distance between caverns of 300 feet, which is the minimum distance used by many states. Arlington states the NYSDEC has not promulgated any regulations prescribing minimum distances or setbacks specific to underground natural gas storage. However, the NYSDEC’s established practice is to base permit approval on rock mechanics testing performed on core samples, geologic mapping and the finite-element or finite-difference modeling that is performed to prove or disprove the capacity of the proposed storage cavern to support safe storage of the products over time. Arlington’s geologists have determined that the salt pillar distance between storage caverns in this salt formation should be more than 60 feet for adjacent


32 Arlington’s June 3, 2013 Response to Staff’s Engineering and Rates Data Request at 4.
caverns with maximum cavern diameters of no more than 350 feet. The Gallery 2 caverns lie approximately 380 feet west of the Gallery 1 caverns. The next closest cavern, Cavern Well No. 58, is approximately 780 feet to the west of Gallery 2. The closest cavern is more than six times the minimum distance determined with reference to NYDEC practice. Furthermore, the caverns are not near the property lines of U.S. Salt’s brine field surrounding Gallery 2. We require Arlington to work proactively with its affiliate, U.S. Salt on future development of the brine field. If U.S. Salt’s cavern development program includes any new cavern closer to Arlington’s Seneca Lake Project boundaries than Cavern Well No. 58, it is incumbent upon Arlington to ensure no new caverns are developed within 300 feet of either Gallery 1 or Gallery 2.

C. Market Based Rates

33. Arlington proposes to offer the additional firm and interruptible storage and hub services that Gallery 2 will support, on an open-access basis at market-based rates under the terms and conditions of its current tariff on file with the Commission. 33 Arlington contends that the additional storage facilities proposed as part of this expansion project will not result in any changes in Arlington’s services or require any changes to its tariff. Arlington asserts that there is no need for the Commission to reconsider its prior determination that Arlington lacks market power.

34. Generally, the Commission evaluates requests to charge market-based rates for storage under the analytical framework of its Alternative Rate Policy Statement. 34 Under the Alternative Rate Policy Statement, the Commission evaluates requests for market-based rates pursuant to two principal purposes: (1) to determine whether the applicant can withhold or restrict services and, as a result, increase prices by a significant amount for a significant period of time; and (2) to determine whether the applicant can

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34 Alternatives to Traditional Cost-of-Service Ratemaking for Natural Gas Pipelines and Regulation of Negotiated Transportation Services of Natural Gas Pipelines, 74 FERC ¶ 61,076, reh’g and clarification denied, 75 FERC ¶ 61,024 (1996), petitions for review denied sub nom., Burlington Resources Oil & Gas Co. v. FERC, 172 F.3d 918 (D.C. Cir. 1998) (Alternative Rate Policy Statement). Rate Regulation of Certain Natural Gas Storage Facilities, Order No. 678, FERC Stats. & Regs. ¶ 31,220, order on clarification and reh’g, Order No. 678-A, 117 FERC ¶ 61,190 (2006).
discriminate unduly in price or terms and conditions of service.\textsuperscript{35} To find that an applicant cannot withhold or restrict services, significantly increase prices over an extended period, or discriminate unduly, the Commission must find that there is a lack of market power,\textsuperscript{36} because customers have good alternatives,\textsuperscript{37} or that the applicant or Commission can mitigate the market power with specified conditions.\textsuperscript{38}

35. Arlington requests reaffirmation of its authority to charge market-based rates for its firm and interruptible storage services and its interruptible hub services without filing a new market power study. Arlington also requests any waiver of 18 CFR Part 284 subpart M that the Commission deems necessary for it to grant this request. Arlington asks the Commission to consider the market power study it submitted in 2010 when it acquired the Seneca Lake Project. Arlington states that the 2010 Market Power Study (2010 study) included an analysis of the Gallery 2 caverns in the aggregate capacity attributed to the Seneca Lake Project.\textsuperscript{39}

36. The 2010 study presents a detailed market share and market concentration analysis of the then-current working gas capacity and market concentration for the New York and Pennsylvania storage area. Arlington’s 2010 study showed that the market concentration for working gas capacity and maximum daily withdrawal capability in the New York and Pennsylvania area results in Herfindahl-Hirschman Index (HHI) levels of 2,129 and 2,057, respectively, which are above the 1,800 threshold level set forth in the Alternative Rate Policy Statement. However, the 2010 study also showed that the Seneca Lake Project’s market shares nevertheless are relatively small: only 0.4 percent for working

\textsuperscript{35} See Blue Sky Gas Storage, LLC, 129 FERC ¶ 61,210 (2009); Orbit Gas Storage, Inc., 126 FERC ¶ 61,095 (2009).

\textsuperscript{36} The Commission defines “market power” as “the ability of a pipeline to profitably maintain prices above competitive levels for a significant period of time.” Alternative Rate Policy Statement, 74 FERC at 61,230.

\textsuperscript{37} A good alternative is an alternative to the proposed project that is available soon enough, has a price that is low enough, and has a quality high enough to permit customers to substitute the alternative for an applicant’s service. See Id.

\textsuperscript{38} A market power study usually defines the relevant products and geographic markets, measures market shares and concentrations, and evaluates other factors such as replacement capacity, ease of entry, and non-storage alternatives.

\textsuperscript{39} Arlington’s Application at 21.
gas capacity and 1.4 percent for maximum daily withdrawal capability. Arlington’s 2010 study showed that the New York and Pennsylvania storage market is concentrated due to the presence of two storage providers, Dominion Transmission Inc. (DTI) and National Fuel Gas Supply Corporation (National Fuel). Both DTI (which has approximately 40 percent of capacity and 40 percent withdrawal capability) and National Fuel (which has 15 percent capacity and 12 percent withdrawal capability) are regulated by the Commission and their Commission-approved rates are cost-based, alleviating the market power potential of relatively small applicants. The Commission has determined that companies with Commission-regulated, cost-based rates cannot exercise market power to increase prices above the cost-based rate cap. 41

37. Since the approval of Arlington’s 2010 study, only one storage company, UGI Storage, has added capacity (14.7 Bcf) in the New York and Pennsylvania market area. This storage facility addition further dilutes the HHI level in Arlington’s market area.

38. Therefore, the Commission concludes that the addition of Arlington’s expanded aggregate working gas storage capacity of 0.55 Bcf will not allow Arlington to exercise market power in the relevant market. Furthermore, Arlington’s request for reaffirmation of its authorization to charge market-based rates is unopposed. For these reasons, Arlington’s request for reaffirmation of its market-based rate authority is approved.

39. However, as in the 2010 Order, approval of market-based rates for the indicated services is subject to re-examination in the event that: (a) Arlington adds storage capacity to the project beyond the capacity authorized in this order; (b) an affiliate increases storage capacity; (c) an affiliate links storage facilities to the project; or (d) Arlington, or an affiliate, acquires an interest in, or is acquired by, an interstate pipeline connected to the project. Since these circumstances could affect its market power status, Arlington must notify the Commission within 10 days of acquiring knowledge of any such changes. The notification must include a detailed description of the new facilities

40 The 2010 study showed that the market shares of Arlington’s total storage field (Thomas Corners Project, Adrian Field Storage Project, and Seneca Lake Project), along with the Stagecoach Project, now owned by Crestwood Equity Partners LP, were relatively small, only 7.9 percent for working gas capacity and 8.0 percent for maximum daily withdrawal capability.


42 UGI Storage Co., 133 FERC ¶ 61,073 (2010), order on reh’g, 134 FERC ¶ 61,239 (2011).
and their relationship to Arlington and the project. The Commission also reserves the right to require an updated market power analysis at any time.

40. Arlington is not proposing any changes to its existing tariff. Arlington proposes to offer firm and interruptible storage and hub services utilizing Gallery 2 on an open-access basis at market-based rates under the terms and conditions of its existing tariff. The Commission finds that the additional storage facilities proposed by Arlington in this application will not result in any changes in Arlington’s services or require any changes to Arlington’s FERC NGA Gas Tariff.

D. Request for Waivers of Filing, Reporting and Accounting Requirements

41. Arlington requests that the Commission waive the following sections of the Commission’s regulations: (1) section 157.6(b)(8) (applicants to submit cost and revenue data); (2) sections 157.14(a)(13), (14), (16), and (17) (cost-based exhibits); (3) section 157.14(a)(10) (gas supply data); (4) the accounting and reporting requirements of Part 201 and sections 260.1 and 260.2 (Form Nos. 2 and 2A); (5) section 284.7(e) (reservation charge); and (6) section 284.10 (straight fixed-variable rate design methodology).

42. In light of the prior approval of market-based rates for Arlington’s storage service and the current request for continuation of authority to provide service at market-based rates, the cost-related information required by the above-described regulations is not relevant. Consistent with previous Commission orders, Arlington’s request for waiver of the regulations requiring the filing of cost-based rate related information is not relevant. Consistent with previous Commission orders, except that such waivers do not extend to the Annual Charge Assessment. Arlington must file page 520 of Form No. 2 or 2-A, reporting gas volume information, in order to permit the Commission to accurately calculate the annual charge. Arlington concurs in

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its application that it will file page 520 of Form 2 or 2-A. In addition, Arlington must maintain records of cost and revenue data consistent with the Commission's Uniform System of Accounts and stand ready to present these records if requested.

E. Environmental Review

43. On April 3, 2013, the Commission issued a Notice of Intent to Prepare an Environmental Assessment for the Proposed Gallery 2 Expansion Project (Gallery 2 Project) and Request for Comments on Environmental Issues (NOI). The NOI was mailed to interested parties including federal, state, and local officials; agency representatives; environmental and public interest groups; Native American tribes; local libraries and newspapers; and affected property owners, as defined in the Commission's regulations (i.e., landowners within one-half mile of the proposed compressor unit).

44. We received over 400 written comments in response to our NOI and Arlington’s application. The commenters included individuals, the Schuyler County Environmental Management Council, the U.S. Environmental Protection Agency (EPA), and Gas Free Seneca. The primary issues raised during scoping concerned air quality, increased vehicle traffic, migratory birds, groundwater and surface water, public health and safety, visual impact, cumulative impacts, alternatives to the Gallery 2 Project, preparation of an environmental impact statement (EIS) rather than an EA, and an extension of time for filing comments and interventions on the Gallery 2 Project.

45. To satisfy the requirements of the National Environmental Policy Act of 1969 (NEPA), our staff prepared an EA for Arlington’s proposal. The EA was prepared with the cooperation of the New York State Department of Environmental Conservation (NYSDEC). The analysis in the EA addresses geology, soils, water resources, wetlands, vegetation, fisheries, wildlife, threatened and endangered species, land use, recreation, visual resources, cultural resources, air quality, noise, safety, cumulative impacts, and alternatives. The EA also addresses all substantive comments received during the scoping process, as well as environmental issues raised by intervenors.

47 Arlington’s Application at 22.

48 As noted above, many of these comments actually addressed the adjacent, non-jurisdictional Finger Lakes LPG storage project.

49 Represented by Earthjustice.
46. On September 13, 2013, the EA was issued for a 30-day comment period and placed into the public record. The EA was also mailed to all interested parties including federal, state, and local officials; agency representatives; environmental and public interest groups; Native American tribes; local newspapers; and affected property owners. The Commission received 41 comment letters on the EA from members of the public, EPA, Schuyler County Environmental Management Council, Gas Free Seneca, Earthjustice (including a compilation of letters that it filed for others), and New York State Senator Tony Avella.

47. An extension of the EA comment period was requested by EPA and Gas Free Seneca due to the federal government shutdown that occurred between October 1 and 16, 2013. To allow affected federal agencies the opportunity to comment, the Commission issued a notice reopening and extending the comment period to November 1, 2013.

48. On October 8, 2013, Gas Free Seneca requested an additional comment period extension to review and comment on geologic materials that were filed by Arlington as critical energy infrastructure information (CEII). The Commission required Arlington to provide these documents to Gas Free Seneca in an October 8, 2013 order. No additional extension of time was necessary; Gas Free Seneca filed its comments on the geologic materials on January 15, 2014, and those comments are addressed in this order.

49. The majority of comments on the EA address: (1) air quality, including compliance with National Ambient Air Quality Standards (NAAQS), air quality modeling requirements, climate change, and potential impacts on nearby vegetative communities and vineyards; (2) cumulative impacts on air quality, noise, public health, tourism due to increased truck and rail traffic, and safety related to the combined operation of the Gallery 2 Project and the proposed Finger Lakes Project; (3) geologic hazards associated with the proposed development of Gallery 2; (4) water resource impacts associated with brine water disposal and stormwater; (5) vegetation and wildlife impacts associated with invasive species and migratory birds; and (6) alternatives, including the no-action alternative and other storage alternatives in the region.

50. The EPA's comments primarily concern the adequacy of Arlington’s air quality modeling. In addition, the EPA recommends that the applicant only use evergreen trees native to the area in its planned screening of the project’s compressor from Seneca Lake. Arlington has agreed to plant a screen of evergreen trees between the project’s compressor and Seneca Lake in order to mitigate the impact on the existing viewshed. Schuyler County Environmental Management Council comments on the fate of the brine water removed during cavern debrining, the need for stormwater mitigation, and compressor noise mitigation. Gas Free Seneca comments that the EA fails to consider the full extent of geologic risks, and contains flaws in its analysis of groundwater, surface water, vegetation, and noise impacts. Gas Free Seneca also states that the EA is deficient in its treatment of invasive species, cumulative impacts, and alternatives, and that a full
EIS should be prepared for the Gallery 2 Project. Senator Avella comments in support of Gas Free Seneca and also requests that a full EIS be conducted along with a health impact study, or alternatively, that the application be denied.

51. Comments on the EA are addressed below, organized by general topic.

1. **Air Quality**

52. EPA and Gas Free Seneca comment that Arlington used an outdated model, SCREEN3, for its air quality assessment. The EPA states that although the results were below the NAAQS, the 1-hour nitrogen dioxide (NO₂) impact is close to the standard, and recommends that AERSCREEN or AERMOD be used instead of SCREEN3 for air quality assessments.

53. In order to address the potential exceedance of the 1-hour NO₂ NAAQS standard, our staff requested that Arlington perform a refined air quality modeling analysis using the latest version of EPA’s AERMOD air dispersion modeling program. In response, Arlington supplemented its application on January 15, 2014, to now propose a 400 hp electric motor-driven compressor unit in place of the 500 hp gas-fired unit analyzed in the EA. There will be no emissions associated with the electric motor-driven compressor unit; therefore, further air quality modeling was rendered unnecessary by Arlington’s new proposal. Electric service for the newly proposed unit is available near the Gallery 2 site, requiring only the replacement of one or two wooden utility poles along an existing access road within the Seneca Lake Project’s facility. We find the required electric service will require minimal additional environmental impact at previously disturbed locations.

54. New York State Senator Avella requests that the Commission perform a health impact study. Based on the analysis in the EA and the elimination of any operational emissions associated with the proposal, we do not believe a health impact study is warranted.

55. The EPA comments that Arlington’s June 25, 2013 response incorrectly stated that New York State does not have a lead standard. Although this facility may not be subject to a lead standard, we acknowledge that New York does regulate lead for applicable sources.

56. The EPA states that the locations of the monitoring sites establishing criteria air pollutant background concentrations provided in Arlington’s June 25, 2013 response are distant from the Gallery 2 Project site, and the EPA recommends that the EA should discuss the “representativeness” of this background relative to the project site. Arlington obtained background concentrations from monitoring stations in: Steuben County, New York; Montoursville, Lycoming County, Pennsylvania; and Scranton, Lackawanna.
County, Pennsylvania. Arlington selected these locations on the basis of being the closest available monitoring sites.

57. We note that the latest U.S. Census finds that Steuben County, New York, and Lackawanna and Lycoming Counties, Pennsylvania, as well as the relatively urbanized areas of Scranton and Montoursville (bordering Williamsport), each have population densities considerably greater than that of Schuyler County. Therefore, the data included in the EA and obtained from the nearest available monitoring sites are conservative estimates of criteria pollutant background concentrations found within Schuyler County and the Gallery 2 Project area.

58. The EPA comments that Arlington’s June 25, 2013 response erroneously exempts the emergency engine at Arlington’s existing compressor station from carbon monoxide (CO) modeling for purposes of demonstrating compliance with the 1-hour CO NAAQS standard. We note this omission. We also note that adding the emergency generator’s contribution to modeled CO concentrations would, at most, minimally increase the predicted maximum concentrations from Arlington’s compressor station, which would remain well below the 1-hour CO NAAQS standard.

59. Numerous commenters state that ozone generated from the Gallery 2 Project would adversely affect grapevines in the project area. Our staff reviewed the information from the U.S. Department of Agriculture concerning the effects of ozone on plants. Section B.7.1 of the EA concludes that the emission of ozone precursors from the Gallery 2 Project’s originally proposed natural gas-fired compressor would have only minimally added to the existing ambient concentrations of these pollutants and would not have resulted in any appreciable change in the formation of ground-level ozone in the project area or damage to surrounding vegetative communities. However, there will be no ozone emissions associated with the now-proposed electric motor-driven compressor unit, and the project operation will contribute no emissions of greenhouse gases resulting in climate change impacts.

2. Cumulative Impacts

60. Gas Free Seneca, the Schuyler County Environmental Management Council, and many other commenters in support of Gas Free Seneca, claim that the EA is deficient in its treatment of cumulative impacts. Gas Free Seneca specifically states that the EA does not properly consider the cumulative operational impacts of the Gallery 2 Project, the existing natural gas facility, the AmeriGas facility, and the Finger Lakes Project.

50 http://quickfacts.census.gov.html
61. Of the identified projects that could contribute to cumulative environmental impacts, only the Finger Lakes Project has potential for cumulative impact in the Gallery 2 Project area. The proposed Gallery 2 Project, along with the Finger Lakes Project, was analyzed in the EA for potential cumulative impacts on groundwater, surface water resources, and air quality. The NYSDEC is the lead regulatory agency for the Finger Lakes Project and is currently reviewing the project application under the New York State Oil, Gas, and Solution Mining Law and the State Environmental Quality Review (SEQR) Act. No other projects identified within the 5-mile-radius of Arlington’s Gallery 2 Project (U.S. Salt, Cargill Salt Co., and AmeriGas) would involve salt cavern storage of natural gas and none would have a direct or indirect cumulative impact on groundwater, surface water resources, or air quality.

62. Gas Free Seneca also comments that the EA ignores cumulative impacts on aesthetics, noise and community character focusing solely on groundwater, surface water and air quality. However, due to the limited scope and impacts of the Gallery 2 Project, groundwater, surface-water quality, and cumulative air impacts were the only resources identified in the EA that could potentially be cumulatively affected (i.e., there will be no impacts on, for example, fisheries, wildlife, or threatened and endangered species).

63. The EA concludes that there would be negligible cumulative impacts on groundwater and surface water. Further, the EA states that construction of the Finger Lakes Project would occur under the authority of the NYSDEC and would be mitigated to avoid significant impacts on groundwater and surface waters. Because no project-specific evidence has been provided to sufficiently call into question the adequacy of the EA’s cumulative impact analysis, we concur that construction and operation of Arlington’s Gallery 2 Project and the Finger Lakes Project will not have cumulative impacts on groundwater and surface waters.

64. Gas Free Seneca comments that the proposed plugging [i.e. abandoning and sealing] of Cavern Well Nos. 30 and 31 would require around the clock activity and Arlington should not be permitted to engage in around the clock construction activities. Gas Free Seneca also states that the Gallery 2 Project would result in increased truck and rail traffic that would cumulatively impact tourism.

65. As stated in the EA, construction would occur on Arlington’s property during a one-month construction window. The construction equipment would operate on an as-needed basis and, contrary to Gas Free Seneca’s suggestion, limited to daytime hours.

only. The Gallery 2 Project's construction will require the temporary use of vehicles, machines, and other equipment and will increase existing truck traffic in the project's vicinity. Following project construction, truck traffic will return to existing levels. There is no increased rail traffic associated with construction or operation of the Gallery 2 Project facilities. Operation of the Gallery 2 Project will not increase truck or rail traffic over existing levels, including the transport of any hazardous materials. As concluded in the EA in section B.5.0, construction and operation of the Gallery 2 Project would have no significant impact on land use, aesthetics, or impact the local economy (primarily derived from tourism).

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, and as such, no cumulative impacts on air quality during construction would occur. Gas Free Seneca states that the EA should address cumulative operational impacts for these projects, as well as from the 60,000-gallon AmeriGas aboveground LPG storage facility located in Watkins Glen, New York.

67. Per information obtained from the NYSDEC Draft Supplemental EIS for the Finger Lakes Project facility, electric motor-driven pumps would be utilized at the brine withdrawal and injection locations, and six additional 40 hp compressor units using unspecified sources of power would be operated in association with railcar unloading operations. The operation of electric motor-driven units would not result in air contaminant emissions at their respective locations; however, the 40 hp compressor units would be sources of air contaminants if operated on fossil fuel (e.g., natural gas, LPG, diesel). Additional air pollutants associated with the Finger Lakes Project would include fugitive dust emissions associated with truck and rail transport activities (including criteria pollutant particulate matter), as well as exhaust from the truck and railroad engines. The air pollutant emissions from these activities would be intermittent, and in the case of the 40 hp units, would be minor sources of emissions that would disperse rapidly into the existing background concentrations.

68. Subsequent to issuance of the EA, Arlington now proposes to construct an electric motor-driven unit for the Gallery 2 compressor, in place of the gas-driven unit. An electric motor-driven compressor is not a direct source of air emissions; therefore, its operation will not result in cumulative impacts on air quality within the Gallery 2 Project's region of influence.

69. We agree with the EA's conclusion that the Gallery 2 Project and the Finger Lakes Project will not result in significant cumulative impacts on regional air quality.

70. Several comments state concern that the Gallery 2 Project-related noise would impact public health and, thus, result in cumulative noise impacts. Gas Free Seneca comments that the EA does not assess the possibility of noise traveling across Seneca
Lake. Similarly, the Schuyler County Environmental Management Council states the potential for sound to become “magnified” across Seneca Lake. On February 12, 2014, Arlington filed the results of a noise assessment for the electric motor-driven unit in response to staff’s February 3, 2014 data request. The noise assessment concludes that the Gallery 2 Project would not result in an audibly detectable increase over existing ambient noise levels at the nearest noise sensitive area (NSA), and the combined full-load operation of the Gallery 2 Project and the existing Arlington compressor station would remain below a day-night sound level of 55 decibels on the A-weighted scale.

71. Therefore, noise from the Gallery 2 Project’s operation will contribute minimally to any cumulative noise impacts at the nearest NSAs, which would include the noise contribution from existing ambient noise sources and the proposed Finger Lakes Project. We acknowledge that some other areas, such as any noise receptors across Seneca Lake, could experience some increase in ambient noise levels from the Gallery 2 Project’s operation. However, due to other competing noise sources, including the existing Arlington compressor station and highway and railroad traffic, noise from the Gallery 2 Project would not significantly impact residents or other individuals within the project area.

72. Arlington’s acoustic study also estimates that the combined operation of the existing Arlington compressor station and Gallery 2 Project facilities will not result in a perceptible increase in vibration at nearby NSAs. Environmental Condition 12 in the appendix to this order requires Arlington to file the results of a noise survey demonstrating that noise attributable to the operation of the Gallery 2 Project compressor unit will not exceed a day-night noise level of 55 decibels on the A-weighted scale at any nearby NSAs.

73. Further, due to the Gallery 2 Project’s lack of operational air emissions and the minor noise and vibration emissions, the project operation will not result in cumulative increased risks to public health.

74. Gas Free Seneca also comments that the EA does not analyze the impacts of Arlington’s future expansion plans to develop additional natural gas storage using existing U.S. Salt caverns, and cites Inergy Midstream’s (currently Crestwood Midstream) most recent Annual Report filed with the Securities and Exchange Commission, and its most recent quarterly filings as proof of these future plans. Gas Free Seneca comments that not addressing these expansion plans constitutes segmentation of a much larger project, contrary to the purpose of NEPA, and that the Commission should
evaluate a "range of build out scenarios" extrapolated from Inergy Midstream’s statements to its shareholders.\(^5\)

75. Improper segmentation of a project occurs when interrelated projects are artificially divided into smaller, less significant components in order to avoid the NEPA requirement that an EIS be prepared for all major federal actions with significant environmental impacts.\(^5\) The Council of Environmental Quality’s (CEQ) NEPA regulations provide guidance on when actions should be analyzed together or separately. Specifically, CEQ’s regulations provide that proposals should be analyzed in the same EIS if they are “connected” (i.e., “closely related”).\(^5\) Actions are connected if they automatically trigger other actions that may require an EIS, cannot or will not proceed unless other actions are taken previously or simultaneously, or are interdependent of a larger action and depend on the larger action for their justification.\(^5\)

76. As explained in this order, the purpose of the Gallery 2 Project is to convert two existing salt caverns, previously used to store LPG, to natural gas storage. The Gallery 2 Project will add 0.55 billion cubic feet of working gas capacity and 0.2 billion cubic feet of base gas capacity within an existing storage facility which will be available to meet seasonal peak-day demands and help respond to market fluctuations. Inergy Midstream’s speculation that the market will require additional natural gas storage capacity utilizing solution-mined cavities at some time in the future is not a proposed project before the Commission and does not constitute a connected action. Therefore, we conclude there is no improper segmentation under NEPA.

3. Geologic Hazards

77. As described in the EA, Arlington’s storage field makes use of existing salt caverns originally developed by U.S. Salt within the Salina Salt Group, which consists of six distinct salt beds and five intervening sedimentary bedrock units of shale, siltstone and anhydrite. Production of commercial salt products is an ongoing operation by U.S. Salt within the Salina Salt Group. The closest caverns to the Gallery 2 Project caverns are Cavern Well No. 58 to the west and the Gallery 1 caverns to the east. The Gallery 2

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\(^5\) Gas Free Seneca’s October 15, 2013 Comments at 8.


\(^5\) Id. § 1508.25(a)(1).
caverns (Cavern Well Nos. 30, 31, and 45) were previously utilized between 1964 and 1989 for LPG storage. Currently Arlington stores natural gas within its Gallery 1 caverns (Cavern Well Nos. 28 and 27/46) located slightly east of the proposed facilities. Gas Free Seneca comments that the EA's analysis of geologic risks associated with Gallery 2 is too limited in its discussion of significant seismic activity, landslides, or other geologic hazards; and does not take into account the significance of geologic structure and the presence of sub-surface faulting.

78. To support its claims, Gas Free Seneca filed with the Commission reports from two geologists, Dr. Young and Dr. Clark. These reports provide a detailed discussion of the regional structural geology, and the presence of sub-surface faulting within New York State, and excerpts from several professional publications including those of a former U.S. Salt geologist, Dr. Jacoby. Dr. Clark provides a considerable discussion (including cavern completion and abandonment reports) regarding the problems associated with the development of U.S. Salt Cavern Well No. 58, and the relationship of these development problems with a coincidental seismic event in the region. Dr. Clark further discusses a release/flow of cavern brine fluid detected during a hydraulic fracturing program on U.S. Salt Cavern Well No. 29 to a point 0.5 mile from the well location. Both Dr. Young and Dr. Clark, as well as numerous other commenters, refer to a recent (September 10, 2013) low magnitude (M2.0) seismic event located about 13 miles north of the Gallery 2 Project, as evidence of the unpredictable seismicity in the region.

79. Dr. Clark points to a number of alleged deficiencies in the EA including: 1) the EA is brief and generally dismisses commenter concerns about geology, seismicity, and faulting; 2) the Commission should have recognized every element of the geologic repository (published geologic papers and articles) particular to the Gallery 2 Project caverns; 3) the EA should have expanded on comments raised about seismicity in the area; and 4) the EA gives faulting in the Gallery 2 area "short shrift", and responds only to commenter concerns about the possibility of a large strike-slip fault (the Jacoby-Dellwig Fault) passing through one of the caverns.

80. Section B.1.3 of the EA characterizes the Gallery 2 Project area as having a low potential for seismicity, with peak ground acceleration of between 2 to 3 percent gravity. The east coast of the United States is a passive tectonic plate boundary located on the "trailing edge" of the North American continental plate, which is relatively seismically quiet. However, cycles of Appalachian mountain-building events did exist in the Gallery 2 Project area during the late Paleozoic to Mesozoic-Era, which produced compressional pressure on sediments in the basin. Earthquakes do occur in the area of Arlington's Galley 2 Project, and within the Allegheny Plateau Physiographic Province. These events are cited in the geologic literature, and are documented by the U.S. Geological Survey (USGS). Present-day seismic activity in the region is largely due to trailing edge tectonics and residual compressional stress release from these historical geologic mountain building events.
81. The low-seismic risk discussed in section B.1.3 of the EA is supported by the published literature\(^{56}\) cited by Gas Free Seneca’s experts, and is further supported by the low intensity of the recent (September 10, 2013) M2.0 earthquake. Magnitude 2 earthquakes are characterized as weak events with no potential for damage and little to no perceived ground shaking.

82. The Cavern Well No. 58 development problems, discussed by Dr. Clark, and its association to a coincidental seismic event was the opinion of one of U.S. Salt’s consulting engineers (Mr. Larry Sevenker). Mr. Sevenker’s incorrect interpretation of the Cavern Well No. 58 sonar log lead to a false conclusion that the cavern’s roof had collapsed due to seismicity in the region.\(^{57}\) The seismic event cited in Dr. Clark’s comments has never been validated and subsequent reentry into Cavern Well No. 58 and sonar logging in 2009 by U.S. Salt showed that the cavern was intact, and what was originally interpreted as a roof collapse was not.\(^{58}\)

83. Gas Free Seneca states that the EA’s conclusions that the caverns are structurally sound relies heavily on the fact that Gallery 2 was used for years to store LPG. Gas Free Seneca states that increasing storage pressure in the caverns during debrining (dewatering), testing, and/or operation could expand and re-open an existing, unmapped assemblage of fractures. Gas Free Seneca further states that these re-opened fractures could provide preferential pathways for natural gas and/or concentrated brine water to escape and contaminate shallow, potable groundwater or make its way into Seneca Lake, thereby affecting the natural salinity of the lake rendering this potable source of drinking water unusable.

84. Dr. Clark states that the EA is brief and general in the conclusions drawn regarding geologic faults within the region, reported by U.S. Salt’s geologist (Dr. Jacoby)


\(^{57}\) Larry Sevenker’s January 15, 2013 Letter to NYSDEC.

\(^{58}\) January 24, 2014. Communication between A.J. Rana (FERC Environmental Staff Geologist) and Mr. Peter Briggs (NYSDEC, Director, Bureau of Oil & Gas Permitting and Management). See also, Arlington’s June 3, 2013 Response to Staff’s Engineering and Rates Data Request.
in a number of publically available professional papers.\textsuperscript{59} Dr. Clark states that the EA should have expanded on citizen comments raising these issues, recognizing that seismicity is a legitimate concern in the Watkins Glen Brine Field and the overall regional tectonic framework and events related to the caverns reveal the stress environment within the subsurface.

85. Dr. Clark cites the geologic literature with information showing that “both” [Gallery 2] caverns are cut by a bedding plane, low-angle thrust fault that enabled the hydraulic fracturing connection between Cavern Wells Nos. 30 and 31, and that this thrust faulting created the underlying cause for a cavern roof collapse in Cavern Well No. 30, when a 400,000 ton mass of bedrock fell from the roof of the cavern to the floor during cavern use for LPG storage.\textsuperscript{60} Further, Dr. Clark points out that the geologic literature describes a major strike-slip fault, the Jacoby-Dellwig Fault, cutting through geologic section [evaporites] with about 1,200 feet of horizontal displacement along the fault trend in a north direction between Gallery 2 (Cavern Well No. 31), and Gallery 1 (Cavern Well No. 28).

86. As discussed in section B.1.3 of the EA, Arlington’s evaluation of well logs, isopach maps, and structure maps in the vicinity of Gallery 2 determined that there is no faulting in the Camillus Shale caprock above the proposed storage galleries. In addition, section B.1.3 of the EA states that the strike-slip fault, in which many commenters expressed their concerns that it is located beneath the Gallery 2 Project caverns, is in fact east of Gallery 2 [between Gallery 1 and Gallery 2].

87. We note the additional published literature cited by Dr. Clark’s January 2014 comments which state that tear faults (small scale local strike slip faults) and thrust faults developed in the Salina Salts and the intervening rock strata between individual salt layers. However, the geologic literature cited by Dr. Clark also describes that structure contour mapping on top of the Salina Salt gives no indication of the faults breaking up the overlying bedrock. The geologic literature states that structure contour and isopach maps reveal that both the upper and lower surfaces of the salt are relatively uniform and

\textsuperscript{59} The Charles Jacoby articles.

that the top and bottom of the salt are horizontal in parallel planes. In addition, the literature states that the evaporites located in the center of the sediments became viscoplastic, absorbed most shock associated with the thrusting action during the paleo-mountain building events, and at the same time acted as a lubricant in between two rigid blocks of carbonate bedrock below and above the Salina Salt. The geologic literature further describes the contact between the bottom salt and the underlying bedrock as sharp and smooth, forming a plane along which the entire salt series was thrust toward the north-northwest.

88. Dr. Clark's comments that the Salina Salt mass underwent considerable deformation producing low-angle thrust faults and tear faults through the salt and intervening clastic units, and that these faults have been exploited for cavern development and connection through hydraulic fracturing. However, the bedrock units above and below the Salina Salt sequence remains unaffected by the paleo-faulting events, as demonstrated through isopach mapping of the Camillus Shale caprock above the proposed storage galleries, and as noted in Dr. Jacoby's papers cited above.

89. Further, Dr. Jacoby states that failure to maintain sufficient pressure [during hydraulic fracturing] results in the "healing" or closing in of the fractures, and that halite crystallizes in the fractures if sufficient pressure is not maintained until the void is completely filled. Dr. Jacoby describes this crystalline halite material as "substantially stronger" in tension than the original salt, thus resisting refracturing, and that this healing effect allows fractured cavities in faulted salt beds, such as those of New York, to be used for the storage of hydrocarbons.

90. Section B.1.3 of the EA states that pressure changes in the Gallery 2 caverns would occur gradually and that no shock or hammer effect would result in sudden changes in the cavern pressure. Gas Free Seneca claims that hydraulic fracturing

\[61\text{ Id.}\]


\[63\text{ Jacoby, C.H., Storage of Hydrocarbons in Bedded Salt Deposits Formed by Hydraulic Fracturing, Proceedings of the Third Symposium on Salt, Cleveland, Ohio, 463-469 (1969b).}\]

\[64\text{ Id.}\]
pressures could re-open an existing assemblage of unmapped fractures; however, this ["hydraulic fracturing"] is not proposed for Arlington’s Gallery 2 Project cavern debrining and/or operational activities.

91. During Arlington’s cavern testing, pressure was applied at the well head and held for an extended period of time while the caverns and wells offset from the caverns were monitored for pressure changes. It was common practice by U.S. Salt to horizontally connect the caverns by hydraulic fracturing. However, as stated above, this is not proposed by Arlington. Dr. Jacoby states that the initial pressure required at the well head to split the salt bed is 1.05 times the vertical distance to the point at which pressure is applied and describes an initial pressure of 2,835 pounds per square inch (psi) necessary to fracture the salt at Cavern Well No. 28 (Gallery 1). 65

92. Hydraulic fracturing initiation pressures used by U.S. Salt on wells in the Arlington storage field have been in the range of 1.36 psi/foot (ft) to 1.70 psi/ft (2,500 psi to 3,500 psi at the well head) to produce the required fracturing and cavern connection results. 66 These pressures are much greater than the pressures Arlington would operate the Gallery 2 caverns, which range between 0.2 psi/ft and 0.9 psi/ft (which equates to 400 psi and 1,669 psi at the well head). Further, as discussed above, existing fractures within the Salina Salt that were previously hydraulically fractured during cavern development heal naturally and are substantially stronger in tension than the original salt. 67 The release of brine fluid from Cavern Well No. 29 was, as Dr. Clark states and what is cited in the geologic literature 68 the result of preferential fracture flow during the hydraulic fracturing in this cavern.


66 December 6, 2013. Communication between A.J. Rana (FERC Environmental Staff Geologist) and Mr. Peter Briggs (NYSDEC, Director, Bureau of Oil & Gas Permitting and Management).


93. Given the proposed operational pressures, it is unlikely that fluid (brine) migration from the Gallery 2 caverns will contaminate potable groundwater sources or Seneca Lake.

94. In consideration of our review of the geologic information provided by Gas Free Seneca's expert geologists, we restate the EA's conclusion that there will be no significant impact on environmental resources due to geologic hazards or from the geologic framework present in the Gallery 2 Project area.

4. **Water Resources**

95. The Schuyler County Environmental Management Council questions the fate of the brine produced during debrining of the Gallery 2 caverns, if the brine is rendered inert and environmentally safe, and if it is ultimately pumped down an abandoned salt well. The Council requested additional information regarding any increase or alteration to impervious cover, how this would impact stormwater drainage issues, how potential brine leaks and/or spills would be addressed, and the need for a stormwater mitigation plan.

96. Section B.3.5 of the EA states that U.S. Salt would temporarily store brine from the Gallery 2 caverns in its existing brine ponds and would utilize the salt in these ponds for salt product processing. In addition, as stated in section B.3.5 of the EA, U.S. Salt is required by NYSDEC to maintain the brine ponds in a leak-free condition in conjunction with its Class III underground injection control permit, and monitor the brine field with groundwater monitoring wells.

97. During the brine evaporation process, there are inorganic precipitates and insoluble material which originate in the caverns and remain behind in the evaporation process. It is common practice to return the inorganic precipitates/insoluble material to designated caverns within the brine field, in accordance with NYSDEC approval, instead of sending this material to a landfill. Currently, there are no active brine disposal wells within Schuyler County. Historically, U.S. Salt did operate a brine disposal well at its Watkins Glen Plant which is the subject of Dr. Jacoby's paper cited by Dr. Clark;

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however, the disposal well, cavity well, and groundwater monitoring wells discussed in Dr. Jacoby’s paper have all been abandoned. 71

98. Section A.7.0 of the EA states that construction of the Gallery 2 Project would disturb a total of 6.60 acres of land owned by Arlington, and following construction Arlington would maintain 0.85 acre for permanent operation of the Gallery 2 Project facilities (wells, compressor pad, brine pump pad, valves, and controls for the interconnecting pipeline). The remaining 5.75 acres disturbed by pipeline construction, temporary access road use, and laydown area would be restored to former uses (predominantly maintained lawn and gravel cover).

99. A portion of the 0.85 acre would consist of new impervious surfaces. The largest impervious surface would be associated with the 400 hp electric motor-driven compressor that would be housed within a steel building with a surface footprint measuring 1,280 square feet (32 foot by 40 foot), or 0.03 acre of impervious cover. There are two man-made waterbodies within the Gallery 2 Project area that convey surface-water drainage. Both waterbodies flow into an unnamed tributary to Seneca Lake. As described in section A.6.0 of the EA, Arlington would implement the measures in FERC’s Upland Erosion Control, Revegetation, and Maintenance Plan (FERC’s Plan) to minimize impacts from erosion and ensure restoration of the Gallery 2 Project area. The minimal increase in impervious surface will be a minor increase over existing conditions in the project area. In regard to brine leaks and spills, section B.3.5 of the EA states that Arlington would implement its Spill Prevention, Containment, and Countermeasure Plan for the containment, handling and mitigation of surface spills of fuels, solvents, or lubricants during construction. The measures included in the spill plan will adequately protect groundwater and surface water resources at the Gallery 2 Project area.

5. Vegetation and Wildlife

100. Gas Free Seneca states that the EA fails to discuss or include an invasive species plan. Arlington states that it will follow FERC’s Plan during construction of Gallery 2 Project facilities. Section III.F of FERC’s Plan requires Arlington to develop procedures to prevent the introduction/spread of invasive species. Given the relatively small area of disturbance for the Gallery 2 Project (a total of 6.60 acres) and the requirements of

FERC's Plan, we conclude that there will be minimal potential for the introduction or spread of invasive species in the Gallery 2 Project area.

101. Gas Free Seneca states that the EA’s discussion of impacts on migratory birds is too conclusory, that there is no analysis to suggest that increased noise would individually or cumulatively impact migratory birds, that the EA lacks a comprehensive discussion of how construction would affect migratory birds during construction, and that the EA does not provide sufficient analysis to support its findings.

102. As described in the EA, a review of the Gallery 2 Project’s potential effects on migratory birds was conducted in consultation with the U.S. Fish and Wildlife Service (FWS). Section B.4.1 of the EA describes that the Gallery 2 Project site is not within a bird conservation area or an important bird area and would provide only marginal habitat for wildlife, and as such, provides only marginal habitat for migratory birds. The EA concludes that based on the existing condition and use of the site and the presence of similar and other more valuable habitats in the area; the effects of construction on migratory birds would be minor.

103. The EA also concludes that operation of the Gallery 2 Project would have no significant impact on use of the site by migratory birds. Less than 1.0 acre of habitat would be permanently lost, disturbed lands would be restored and allowed to revert to pre-project conditions, and additional noise attributable to the increased compression would be minor. Because no evidence has been provided to sufficiently call into question the EA’s findings and our consultation with the FWS, we concur that construction and operation of the Gallery 2 Project will not significantly affect migratory birds.

6. Alternatives

104. Gas Free Seneca, the Schuyler County Environmental Management Council, and several other commenters in support of Gas Free Seneca claim that the EA fails to adequately consider the no-action alternative. Section C.1.0 of the EA evaluates project alternatives, including the no-action alternative, energy conservation alternatives, source alternatives, and storage alternatives. The EA concludes that under the no-action alternative, the objective of the Gallery 2 Project to provide firm natural gas storage capacity to satisfy growing demand in the northeast would not be met. It is possible that without the proposed Gallery 2 Project the storage capacity and seasonal peak-day demands may be met by alternative projects or energy sources, potentially resulting in additional impacts on the environment. Other natural gas companies could construct projects in substitute for the natural gas storage service proposed by Arlington. Such alternative projects could require the construction of additional and/or new storage facilities in the same or other locations to store the gas volumes proposed by the Gallery 2 Project. These projects would result in their own set of specific environmental impacts that could be equal to or greater than those described for the current proposal.
Furthermore, it is speculative to predict what action might be taken by policymakers or end users in response to the no-action alternative.

105. The EA states that energy conservation and energy alternatives, such as renewable energy sources (wind and solar), when compared to natural gas storage, would be ineffective at reducing peak daily demands. Further, the EA finds that other energy sources, such as oil, propane, coal, and wood could be used to satisfy peak daily demands; however, these sources of energy would result in greater air emissions and long-term environmental impact when compared to the proposed Gallery 2 Project. We find that the EA adequately addresses these alternatives.

106. Gas Free Seneca states that the EA fails to consider other existing underground facilities located in less sensitive areas, and the EA should consider whether the vast increased supply of natural gas in nearby Pennsylvania and Ohio could be transported to obviate the need for additional storage in the Finger Lakes region. 72

107. The EA evaluates other storage alternatives within the region that would allow for the requisite storage working capacity and similar system flexibility and deliverability options. Several storage alternatives were considered, including the development of new storage facilities such as depleted reservoir storage and cavern storage. Section C.2.0 of the EA identifies three underground natural gas storage facilities in the northeast and concludes that development of the necessary storage capacity at any of these facilities would result in greater construction, environmental, and landowner impacts when compared to Arlington’s proposed Gallery 2 Project. In addition, these alternatives would require an adequate supply of raw water for cavern leaching, as well as brine storage and disposal. When compared to the proposed action, Arlington’s Seneca Lake Project is unique in terms of its proximity to existing natural gas pipeline infrastructure, as well as U.S. Salt’s existing brine storage and handling facilities. Lastly, other means of providing natural gas to the region, such as direct pipeline infrastructure from shale

72 Gas Free Seneca also asserts that “to the extent the Project approval facilitates new well development in the areas just to the south of the Project location, the upstream impacts of the new storage construction should be included in FERC’s environmental analysis.” Gas Free Seneca October 15, 2013 Comments at 11. New well development is not reasonably foreseeable as it is unknown how much, if any, such development will result from the Project, or where any potential development may be sited, nor does Gas Free Seneca attempt to support its speculation regarding the likelihood of future development. Moreover, even if a meaningful analysis of potential well development “facilitated” from the Project was possible, it is unclear how this analysis would inform our analysis of the “no action alternative.”
gas producing regions that could meet the Gallery 2 Project's objective has not been proposed and is not currently before the Commission for evaluation.

7. **EA vs. EIS**

108. Gas Free Seneca believes the preparation of an EIS, rather than an EA, is necessary in order to consider the direct, indirect, and cumulative impacts associated with the Gallery 2 Project. The CEQ regulations implementing NEPA state that one of the purposes of an EA is to assist agencies in determining whether to prepare an EIS or a finding of no significant impact. Consistent with CEQ's regulations, the Commission's policy is to prepare an EA, rather than an EIS, if our initial review indicates that a project is not likely to be a major federal action significantly affecting the quality of the human environment. The Commission's years of experience with NEPA implementation for natural gas projects indicate that the Gallery 2 Project as presented in Arlington's application and subsequent modifications to the project would not fall under the "major" category for which an EIS is automatically prepared. As indicated in the EA, no significant impacts will occur as a result of the construction, and operation of the Gallery 2 Project. We affirm the EA's findings and reject Gas Free Seneca's assertion that an EIS is required.

109. Based on the analysis in the EA, we conclude that if constructed and operated in accordance with Arlington's application and supplements, and in compliance with the environmental conditions in the appendix to this order, our approval of this proposal would not constitute a major federal action significantly affecting the quality of the human environment.

110. Any state or local permits issued with respect to the jurisdictional facilities authorized herein must be consistent with the conditions of this certificate. The Commission encourages cooperation between interstate pipelines and local authorities. However, this does not mean that state and local agencies, through application of state or local laws, may prohibit or unreasonably delay the construction or operation of facilities approved by this Commission.

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73 See 40 C.F.R. § 1508.9 (2013).

IV. Conclusion

111. At a hearing held on May 15, 2014, the Commission, on its own motion, received and made a part of the record in this proceeding all evidence, including the application, as supplemented, and exhibits thereto, submitted in support of the authorizations sought herein, and upon consideration of the record,

The Commission orders:

(A) A certificate of public convenience and necessity is issued to Arlington to construct and operate the Gallery 2 Project, as described and conditioned herein, and as fully described in the application.

(B) The certificate authority issued in Ordering Paragraphs (A) is conditioned on Arlington’s compliance with all applicable Commission regulations under the NGA, including but not limited to the terms and conditions in Part 157 and paragraphs (a), (c), (e), and (f) of section 157.20 of the regulations.

(C) Arlington must comply with the engineering conditions set forth in Appendix A to this order.

(D) Arlington must comply with the environmental conditions set forth in Appendix B to this order.

(E) The facilities authorized herein must be constructed and made available for service within two years of the issuance of this order pursuant to section 157.20(b) of the Commission’s regulations.

(F) Arlington must work proactively with its affiliate, U.S. Salt, if U.S. Salt’s cavern development program proposes any new cavern closer to Arlington’s Seneca Lake Project boundaries than Cavern Well No. 58 to ensure no new caverns are developed within 300 feet of either Gallery 1 or Gallery 2.

(G) Arlington shall notify the Commission's environmental staff by telephone, electronic mail, and/or facsimile of any environmental noncompliance identified by other federal, state, or local agencies on the same day that such agency notifies Arlington. Arlington shall file written confirmation of such notification with the Secretary of the Commission within 24 hours.

(H) Arlington is authorized to continue to charge market-based rates for firm and interruptible storage and hub services as discussed above and subject to the conditions in this order.
Arlington is granted a waiver of the Commission's regulations that have been deemed inapplicable to storage providers with market-based rates, as discussed in this order.

By the Commission.

( SEAL )

Nathaniel J. Davis, Sr.,
Deputy Secretary.
Appendix A
Engineering Conditions for the
Gallery 2 Project
Docket No. CP13-83-000

This authorization is subject to the following engineering conditions:

1. The maximum inventory of natural gas stored in each cavern, and at the entire Seneca Lake facility, shall not exceed the certificated levels stated in the table below at 14.73 psia and 60° F without prior authorization by the Commission. The maximum shut-in stabilized pressure gradient for Gallery 1 and Gallery 2 shall not exceed 0.9 psi/ft as measured at the casing shoe of the monitoring well. The minimum pressure gradient shall be limited to 0.20 psi/ft as measured at the casing shoe of the monitoring well.

<table>
<thead>
<tr>
<th></th>
<th>Gallery 1</th>
<th>Gallery 2</th>
<th>Seneca Lake</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Gas capacity, Bcf</td>
<td>0.89</td>
<td>0.20</td>
<td>1.09</td>
</tr>
<tr>
<td>Working Gas capacity, Bcf</td>
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<td>0.55</td>
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</tr>
<tr>
<td>Total Gas capacity, Bcf</td>
<td>2.34</td>
<td>0.75</td>
<td>3.09</td>
</tr>
</tbody>
</table>

2. Before Gallery 2 is placed in-service, Arlington shall determine the final gas storage operating capacity, working gas capacity, cushion gas capacity and maximum and minimum pressures at the casing shoe of the monitoring well and file them with the Commission (including data and work papers to support the actual operating capacity determination).

3. Before commencing storage operations in Gallery 2, Arlington shall:
   
   (a) Conduct a Mechanical Integrity Test for the Gallery 2 caverns and cavern wells before initiation of each well/cavern to natural gas storage and file the results with the Commission;

   (b) File with the Commission copies of the latest interference tracer surveys, or other testing or analysis on the Gallery 2 caverns to verify the lack of communication between the caverns;
(c) Establish and maintain a subsidence monitoring network over the proposed Gallery 2 caverns' storage area;

(d) Assemble, test, and maintain an emergency shutdown system;

(e) Conduct and file with the Commission the results of a new sonar survey of Gallery 2, including plan view and cross sections, and 3-D; and

(f) Determine and file with the Commission the volume of rubble in Gallery 2, including the methodology of determining such volume.

4. Until one year after the storage inventory reaches or closely approximates the total authorized capacity for the Seneca Lake Project, Arlington shall twice annually conduct a leak detection test during storage operations to determine the integrity of the Gallery 1 and Gallery 2 caverns, well bore, casing and wellhead, and file the results with the Commission, unless otherwise ordered by the Commission.

5. Each of the Gallery 1 and Gallery 2 cavern wells shall be periodically logged to check the integrity of each casing string. Additionally, every five years, Arlington shall conduct sonar surveys of the Gallery 1 and Gallery 2 caverns to monitor their dimensions and shape, including the cavern roof, and to estimate pillar thickness between openings throughout the storage operations, and file the results with the Commission. In the alternative, no less than 30 days before placing Gallery 2 into service, Arlington may file with the Commission, for prior approval of the methodology, a detailed cavern integrity monitoring plan that is consistent with the intent of the sonar survey.

6. Arlington shall conduct annual inventory verification studies on Gallery 1 and Gallery 2, and file the results with the Commission.

7. Arlington shall operate the Seneca Lake Project in such a manner as to maintain the integrity of the Gallery 1 and Gallery 2 caverns and to prevent gas loss from the caverns. Arlington shall monitor both Galleries for any gas loss, and monitor the surface in and immediately around the Seneca Lake Project facility boundaries for any surface expression of gas migration.

8. Arlington shall file with the Commission semi-annual reports (to coincide with updates of the maximum and minimum storage pressures) containing the following information in accordance with section 157.214(c) of the Commission's regulations (volumes shall be stated at 14.73 psia and 60° F, and pressures shall be stated in psia):

(a) The daily volume of natural gas injected into and withdrawn from the Gallery 1 and Gallery 2 caverns;
(b) The inventory of natural gas and shut-in wellhead pressure for the Gallery 1 and Gallery 2 caverns at the end of each reporting period;

(c) The maximum daily injection and withdrawal rates experienced for the storage field during the reporting period, and the average working pressure on such maximum days, taken at a central measuring point where the volume injected or withdrawn is measured;

(d) The results of any tests performed to determine the actual size, configuration, or dimensions of the Gallery 1 and Gallery 2 caverns;

(e) A discussion of any operating problems and conclusions;

(f) Other data or reports which may aid the Commission in the evaluation of the storage project.

9. Arlington shall file semiannual reports in accordance with section 157.214 (c) of the Commission's regulations until the maximum inventory reaches or closely approximates the maximum capacity authorized and for a period of one year following.
Appendix B
Environmental Conditions for the
Gallery 2 Project
Docket No. CP13-83-000

As recommended in the environmental assessment (EA), this authorization includes the following conditions:

1. Arlington shall follow the construction procedures and mitigation measures described in its application and supplements (including responses to staff data requests) and as identified in the EA, unless modified by the Order. Arlington must:
   a. request any modification to these procedures, measures, or conditions in a filing with the Secretary of the Commission (Secretary);
   b. justify each modification relative to site-specific conditions;
   c. explain how that modification provides an equal or greater level of environmental protection than the original measure; and
   d. receive approval in writing from the Director of the Office of Energy Projects (OEP) before using that modification.

2. The Director of OEP has delegated authority to take whatever steps are necessary to ensure the protection of all environmental resources during construction and operation of the project. This authority shall allow:
   a. the modification of conditions of the Order; and
   b. the design and implementation of any additional measures deemed necessary (including stop-work authority) to assure continued compliance with the intent of the environmental conditions as well as the avoidance or mitigation of adverse environmental impact resulting from project construction and operation.

3. Prior to any construction of facilities, Arlington shall file an affirmative statement with the Secretary, certified by a senior company official, that all company personnel, environmental inspectors (EI), and contractor personnel will be informed of the EI's authority and have been or will be trained on the implementation of the environmental mitigation measures appropriate to their jobs before becoming involved with construction and restoration activities.
4. The authorized facility location shall be as shown in the EA. **As soon as they are available, and before the start of construction,** Arlington shall file with the Secretary any revised detailed survey alignment maps/sheets at a scale not smaller than 1:6,000 with station positions for the facility approved by the Order. All requests for modifications of environmental conditions of the Order or site-specific clearances must be written and must reference locations designated on these alignment maps/sheets.

5. Arlington shall file with the Secretary detailed alignment maps/sheets and aerial photographs at a scale not smaller than 1:6,000 identifying all facility relocations, and staging areas, pipe storage yards, new access roads, and other areas that would be used or disturbed and have not been previously identified in filings with the Secretary. Approval for each of these areas must be explicitly requested in writing. For each area, the request must include a description of the existing land use/cover type, documentation of landowner approval, whether any cultural resources or federally listed threatened or endangered species would be affected, and whether any other environmentally sensitive areas are within or abutting the area. All areas shall be clearly identified on the maps/sheets/aerial photographs. Each area must be approved in writing by the Director of OEP **before construction in or near that area.**

This requirement does not apply to extra workspace allowed by FERC's *Upland Erosion Control, Revegetation, and Maintenance Plan* and/or minor field realignments per landowner needs and requirements which do not affect other landowners or sensitive environmental areas such as wetlands.

Examples of alterations requiring approval include all route realignments and facility location changes resulting from:

a. implementation of cultural resources mitigation measures;

b. implementation of endangered, threatened, or special concern species mitigation measures;

c. recommendations by state regulatory authorities; and

d. agreements with individual landowners that affect other landowners or could affect sensitive environmental areas.

6. **Within 60 days of the acceptance of the Certificate and before construction begins,** Arlington shall file an Implementation Plan with the Secretary for review and written approval by the Director of OEP. Arlington must file revisions to the plan as schedules change. The plan shall identify:
a. how Arlington will implement the construction procedures and mitigation measures described in its application and supplements (including responses to staff data requests), identified in the EA, and required by the Order;

b. how Arlington will incorporate these requirements into the contract bid documents, construction contracts (especially penalty clauses and specifications), and construction drawings so that the mitigation required at each site is clear to onsite construction and inspection personnel;

c. the number of EIs assigned, and how the company will ensure that sufficient personnel are available to implement the environmental mitigation;

d. company personnel, including EIs and contractors, who will receive copies of the appropriate material;

e. the location and dates of the environmental compliance training and instructions Arlington will give to all personnel involved with construction and restoration (initial and refresher training as the project progresses and personnel change);

f. the company personnel (if known) and specific portion of Arlington's organization having responsibility for compliance;

g. the procedures (including use of contract penalties) Arlington will follow if noncompliance occurs; and

h. for each discrete facility, a Gantt or PERT chart (or similar project scheduling diagram), and dates for:

(1) the completion of all required surveys and reports;

(2) the environmental compliance training of onsite personnel;

(3) the start of construction; and

(4) the start and completion of restoration.

7. Arlington shall employ at least one EI who shall be:

a. responsible for monitoring and ensuring compliance with all mitigation measures required by the Order and other grants, permits, certificates, or other authorizing documents;
b. responsible for evaluating the construction contractor's implementation of the environmental mitigation measures required in the contract (see recommendation 6 above) and any other authorizing document;

c. empowered to order correction of acts that violate the environmental conditions of the Order, and any other authorizing document;

d. responsible for documenting compliance with the environmental conditions of the Order, as well as any environmental conditions/permit requirements imposed by other federal, state, or local agencies; and

e. responsible for maintaining status reports.

8. Beginning with the filing of its Implementation Plan, Arlington shall file updated status reports with the Secretary on a biweekly basis until all construction and restoration activities are complete. On request, these status reports will also be provided to other federal and state agencies with permitting responsibilities. Status reports shall include:

a. an update on Arlington's efforts to obtain the necessary federal authorizations;

b. the construction status of the project, work planned for the following reporting period, and any schedule changes for stream crossings or work in other environmentally-sensitive areas;

c. a listing of all problems encountered and each instance of noncompliance observed by the EI(s) during the reporting period (both for the conditions imposed by the Commission and any environmental conditions/permit requirements imposed by other federal, state, or local agencies);

d. a description of the corrective actions implemented in response to all instances of noncompliance, and their cost;

e. the effectiveness of all corrective actions implemented;

f. a description of any landowner/resident complaints which may relate to compliance with the requirements of the Order, and the measures taken to satisfy their concerns; and

g. copies of any correspondence received by Arlington from other federal, state, or local permitting agencies concerning instances of noncompliance, and Arlington’s response.
9. Prior to receiving written authorization from the Director of OEP to commence construction of any project facilities, Arlington shall file with the Secretary documentation that it has received all applicable authorizations required under federal law (or evidence of waiver thereof).

10. Arlington must receive written authorization from the Director of OEP before placing the project into service. Such authorization will only be granted following a determination that rehabilitation and restoration of areas affected by the project are proceeding satisfactorily.

11. Within 30 days of placing the authorized facilities in service, Arlington shall file an affirmative statement with the Secretary, certified by a senior company official:
   a. that the facilities have been constructed in compliance with all applicable conditions, and that continuing activities will be consistent with all applicable conditions; or
   b. identifying which of the Certificate conditions Arlington has complied with or will comply with. This statement shall also identify any areas affected by the project where compliance measures were not properly implemented, if not previously identified in filed status reports, and the reason for noncompliance.

12. Arlington shall file a noise survey with the Secretary no later than 60 days after placing the project compressor unit in service. If a full power load condition noise survey is not possible, Arlington shall file an interim survey at the maximum possible power load within 60 days of placing the project compressor unit in service and file the full load survey within 6 months. If the noise attributable to the operation of the project compressor unit at full or interim power load conditions exceeds a day-night noise level of 55 decibels on the A-weighted scale at any nearby noise-sensitive areas, Arlington shall file a report on what changes are needed and shall install the additional noise controls to meet the level within 1 year of the in-service date. Arlington shall confirm compliance with the above requirement by filing a second full power noise survey with the Secretary no later than 60 days after it installs the additional noise controls.
Incoming Correspondence:

It would be a shame to create a Gas Storage Facility on the shore of Seneca Lake. Containing two large brine ponds, two fifty foot flares burning methane 24-7, compressor stations, multiple rail road lines, and constant tanker truck traffic. The plans to utilize a century old geologically unstable salt mine containing fault lines and multiple fractures due to ever drifting plate tectonics are risky. The fractures ensure pathways for methane or brine migration. Flow patterns within the wells will further degrade the cavern walls creating collapses or earth quakes. Any of which could result in massive pollution to Seneca Lake and the surrounding area. The lake provides drinking water for over 100,000 people, and contains 50% of the water found in all of the Finger Lakes. Gas storage facilities are notorious for fires, explosions, leaks, spills, and train and truck accidents. The plan poses serious risks to our safety, health, wineries, tourism, agriculture and recreation. Please do not allow this project to commence. Thank you, Kim Benson, Ontario County
Michael L. Lausell, New District III
Schuyler County Legislature
5120 County Road 4
Burdett, NY 14818

Re: Follow-up re LPG Safety

Dear Mr. Lausell:

Thank you for asking for my opinion of the risks that Schuyler County should consider as it evaluates its response options regarding liquid propane gas (LPG) storage proposals. As a healthcare executive with a particular interest in safety I have worked on and/or been exposed to a wide range of risk evaluations, from natural disasters to nuclear power plants. You asked:

Is the proposal to supply liquid propane gas by rail, store it in solution-mined salt caverns, and deliver it by road an acceptable risk to Schuyler County residents?

Attached is my independent, high-level, quantitative analysis of the three critical safety issues you presented last Monday to the Schuyler County Legislature, based on my training and experience in health safety work. I have made no attempt to judge the merits of complex arguments on geologic strata or surface infrastructure. Such judgments are not necessary for this purpose. I have simply used publicly available data sources and some fairly easy math to answer the safety questions you raised about LPG storage in Schuyler County:

My report is not submitted on behalf of any other entity, such as Cayuga Medical Center, Concerned Citizens of Schuyler County, Crestwood, EarthJustice, Gas Free Seneca, Schuyler Hospital, or you. I am one of your constituents, and reside in New District III in the Town of Hector. I have received no compensation from any source for this work. It is not copyrighted, and you are free to use, or not use it, as you see fit.

To summarize, my analysis finds that under the proposal in question the likelihood of an LPG disaster of serious or extremely serious consequence within the county in the next twenty-five years is greater than 40%. In my view this is an unacceptable risk.
As in my comments before the Schuyler County Legislature on July 14th, I would respectfully suggest that it is now time for a “safety time-out”. Every effort should be made to communicate with the company, its regulators, the community, and local and state leaders about the likelihoods and consequences of this risk, so that a broad consensus can be developed for an alternative that better ensures the health, safety, and welfare of Schuyler County.

Thank you once again for asking for my input. If I can be helpful in any other way, please let me know.

Sincerely,

Rob Mackenzie, MD, FACHE
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Executive Summary
An independent, high-level quantitative assessment was performed to evaluate the major risks associated with expansion of liquid propane (LPG) and butane storage in dormant Schuyler County solution-mined salt caverns. The risks of events associated with LPG rail transport, truck transport, and salt cavern storage were evaluated using standard methodology, a twenty-five year exposure interval, and publicly available sources.

Rail transport events are scored a very low likelihood at 3%, but risk reduction efforts should be considered because of possibly extreme consequences. Truck transport events are scored a low likelihood at 8-10%, but are an unacceptable risk because of extreme consequences. Salt cavern storage events are scored a medium likelihood at 35%, and are an unacceptable risk because of extremely serious consequences. The very low likelihood of major brine leak with extreme consequences, and the fact that the salt cavern is located in bedded plane geology rather than in a salt dome, add to that risk.

In aggregate, the likelihood for a liquid propane gas disaster of serious or extremely serious consequences within the county in the next twenty-five years is scored at more than 40%. From the perspective of community safety based on this analysis, the Crestwood proposal carries an unacceptable risk of serious or extremely serious consequences. Because risk mitigation efforts in salt cavern storage have thus far proven unsuccessful in significantly reducing the frequency of serious and extremely serious incidents, an alternative plan should be considered.

Introduction
Risk assessment work starts with a prioritization process, based on the likelihood and consequences of identified untoward events. For events of extreme seriousness and high likelihood, the risk is ordinarily deemed unacceptable, and efforts are made chiefly to reduce or eliminate the risk. For events of minor consequence and low likelihood, the risk may be deemed acceptable, and a response plan is developed. A matrix is commonly used to display the combination of consequence and likelihood:\(^1\)\(^2\)
In a high-level quantitative risk analysis (QRA) I have applied this process to evaluate the risk of the Schuyler County liquid propane gas (LPG) storage proposal submitted by Crestwood-Midstream Partners, LP.

Crestwood’s predecessor company, Inergy Midstream commissioned its own QRA, reported in 2012. That analysis evaluated the frequency, severity, and consequences of equipment-related potential gas releases at the facility in great detail, and concluded that the hazards and risk to on-site and nearby individuals were acceptable and “similar to those of LPG storage, transport, and processing facilities worldwide.”

However, that QRA did not analyze risks associated with transport to or from the site, even though the transport stage of the energy chain is responsible for a volume of fatalities and injuries several orders of magnitudes higher than the facility stage. It did not analyze the potential or consequences of release of salt brine from the facility, even though such release may have major public health consequences and cause irremediable environmental damage (see Salt Brine, below).

And that QRA greatly underreported salt cavern problems: It cited a European study that determined the geologic failure rate to be one in 100,000. Yet that study included depleted oil and gas wells (which have a better safety track record), and omitted many salt cavern incidents. The annual probability of serious or extremely serious incidents in salt cavern facilities is greater than one in 100—a thousand times higher than Inergy’s QRA implies (see Salt Caverns, below).
Brief summary of LPG storage proposal:
Crestwood, Inc.'s DEC application for a Schuyler County liquid propane and butane gas storage facility reportedly calls for up to 24 inbound rail tank cars, every twelve hours during summer months, to deliver LPG for storage in a US Salt cavern from which salt is no longer being solution-mined. Their plan then calls for up to four outbound tanker trucks per hour during winter months, to deliver LPG to the northeast US.4

In this case multiple stakeholders have identified three high-level processes in which a catastrophic event or events might occur. I limited my analysis to these three contingencies. Stated as questions:

(1) Is LPG transportation by rail an acceptable risk?
(2) Is LPG transportation by road an acceptable risk?
(3) Is salt cavern storage of LPG an acceptable risk?

Tools and techniques for risk assessment scoring in the petroleum and natural gas industries include guidelines from the International Organization for Standardization (ISO) and other energy sector sources.3 5 6 7

To assign probabilities on the continuum from “very low” to “very high” likelihood I used an ISO risk matrix with an exposure interval of 25 years, which is standard in the occupational health literature8 and appropriate for longer-term community planning.

RISK ANALYSIS

Rail Transportation Risk:
LPG rail ingress from the south would proceed north from the southern tier corridor at Corning on the Norfolk Southern Railroad on Class II (“regional”) track.9 It would cross Watkins Glen State Park gorge on a trestle constructed in the 1930’s and terminate at a proposed new rail siding at the Crestwood site.

The most serious risk in LPG rail transportation is derailment with overturned tank cars, when puncture and leakage of fuel is common.10 In the decade 1995-2004 there were 17 serious incidents of U.S. train derailment, tank fracture, hazardous gas release, or chemical reaction, resulting in 9 dead, 5000 injured, and 10,000 evacuated.3 It has been speculated that if a similar accident were to occur on the trestle over the state park, the relatively heavy propane gas would flow like a liquid down the gorge or the hill in two to four minutes and spread out in the town below, and that ignition from vehicle exhaust, etc., would then almost certainly cause an explosion, propagate a blast wave, and start fires.11
In my literature review and in discussions with fire officials I found this catastrophic scenario credible, but rare. One instance would be the small-town LPG railroad tank-car derailment that occurred in Viareggio, Italy in 2009. In that horrific case there were many flattened buildings and 30 fatalities. Computer modeling after the fact indicated that it likely took the propane gases 100 seconds to reach the furthest-away incinerated house, even with flat local terrain and under calm weather conditions. Because of the fast spread of gas, emergency response in Viareggio was limited to evacuation and after-the-fact injury care. These types of crashes would be scored extremely serious on the ISO risk matrix.

From industry-published rates the probability of rail tanker derailment with overturnment within the county over twenty-five years is about 3%, assuming the planned schedule of two trains daily. This estimate could be further refined by looking at speed, number of cars, class of track, and the integrity of bridges and other rail infrastructure. Without such evidence I have placed this event in cell E1, very low likelihood. This cell indicates “assessment range,” so ways to reduce risk further should be still considered because of the possibly extreme consequences.

![Figure 2 -- Train Risk](image)

**Truck Transportation Risk:**  
It has been proposed that outbound trucks travel via NYS Routes 14 and 14A, with most traffic southward on Route 14 toward the southern tier corridor. South from the Crestwood plant, Route 14S descends a 3.6% grade for 2 miles, and then proceeds around a left-right “S” curve, as it enters the Village of Watkins Glen. (Because comparison to a recent Ithaca incident has been suggested, Ithaca’s NYS Route 79W descends a 4.6% grade over one half mile into Ithaca.)
The most serious risk in LPG truck transportation is tanker-truck crash with tank rupture and explosion.\(^\text{10}\) It has been speculated that if such a truck were to lose its brakes on the Route 14S downgrade at the edge of the Village of Watkins Glen, the relatively heavy propane gas would again flow like a liquid into the town and cause a conflagration.\(^\text{11}\) A similar truck event happened in Ithaca on June 20, 2014 when a car carrier reportedly lost brake power on Route 79W, crashed into a building, killing one person, injuring others, and burned in the heart of downtown. The resulting fire did not involve propane, however, and was promptly extinguished by bystanders.\(^\text{17}\)

Truck crashes involve a lower volume of LPG spillage than railcars, and are often spectacular but less often catastrophic.\(^\text{18}\) A truck crash into a building in the center of town such as the one seen recently in Ithaca, however, would still be scored extremely serious, when compounded by propane leakage and conflagration with multiple casualties.

Based on online, industry-reported rates of LPG tank-truck rupture from crashes per mile, giving due credit for more recent improvement in road safety, and estimating the road tanker traffic at 80 percent of the levels requested by the company, the twenty-five year probability of an LPG road tanker rupture and explosion within the county is about 5 percent, assuming travel on “average” roads.\(^\text{19}\)

Some segments of the Schuyler County roads in question, of course, are not “average.” There is good information about the adverse road characteristics that increase or decrease truck crash likelihood.\(^\text{20,21}\) More than half of all fatal truck accidents occur on rural, two-lane roads as compared with urban roads and divided highways. Frequency rises further with both steepness and with curves. The combination of a downhill grade and a curve is particularly deadly when the curve is to the left, as vehicles in the right lane are then more likely to leave the road. Large truck crashes are concentrated on such road segments.

In the case of traffic on Route 14S, the hill is relatively steep, the first curve is to the left, the second curve is to the right. The major intersection three blocks south, at the center of Watkins Glen can be congested, but mainly in summer, when LPG tanker-truck traffic should be lower. Based on the literature on adverse road conditions, the twenty-year probability of tank rupture from a crash is raised from 5 to between 8 and 10 percent. This would be scored low likelihood over the twenty-five year time frame. That score would place tanker-truck crashes on the matrix in cell E2, i.e., an unacceptable risk because of the extremely serious consequences.
Salt cavern risk:

Event rates
As of 2012 there were 414 underground natural gas storage facilities in the US. Most are in depleted oil and gas fields; a few are in aquifers, and 40 are in “salt cavern” facilities. Most salt caverns have been developed over several decades from naturally occurring, globular, so-called “salt domes” in the Gulf states. Nine have been added since 2007. A few salt caverns are in “bedded salt” deposits like Schuyler County’s, which itself has been used in the past for LPG and natural gas storage. Safety oversight of underground gas storage is performed by both federal and state agencies.

Despite this supervision, between 1972 and 2012 there have been 18 serious or extremely serious incidents in salt cavern storage facilities. With the average number of facilities in operation through most of the last two decades close to 30, the US incidence is about 60 percent (compared to 40 percent worldwide), and the frequency is about 1.4% per year. Causes of failure have included corroded casings, equipment failure, brine erosion leading to breach, leakage into other geologic formations, and human error.

The salt cavern failure rate cited in Inergy’s QRA was derived in part from the European Marcogaz study which looked at all underground storage facilities, most of which do not use riskier salt caverns, but the much safer depleted oil and gas fields. Marcogaz also omitted a number of incidents. Worldwide, the percentage of incidents involving casualties at salt cavern facilities as a percentage of the number of facilities operational in 2005 was 13.6 percent, compared to 0.63% for gas and oil fields, and 2.5% for aquifers.

Nine of the salt cavern incidents were accompanied by large fires and/or
explosions. Six involved loss of life or serious injury. In eight cases evacuation of between 30 and 2000 residents was required. Extremely serious or catastrophic property loss occurred in thirteen of the 18 cases. The likelihood of a serious, very serious, or catastrophic incident over twenty-five years is 35 percent. This would be initially scored a medium likelihood, with the potential for at least serious consequences, and possibly extremely serious consequences, and thus an unacceptable risk.

Salt brine
The possibility of catastrophic salt cavern brine leakage has been a subject of local concern. Crestwood's plans are for rail-tank LPG to be pumped in to displace the naturally saturated salt brine from the cavern, with the brine stored in large surface ponds open to the atmosphere. The brine would then be pumped back in to the cavern to displace LPG when distribution by truck is called for.

Crestwood has also identified Schuyler County as a location for northeastern U.S. brine disposal. In Crestwood's Bath storage facility, excess pond brine resulting from precipitation is discharged into the Cohocton River and an existing disposal well under a state permit. In the case of Schuyler County, Crestwood has identified the U.S. Salt facility as a disposal option.

Brine leakage has been an uncommon problem in salt cavern failure, although it has extreme consequences because it may be difficult or impossible to remediate. In the oil hydrofracking industry, a one million gallon 2006 brine leak into North Dakota's Charbonneau Creek, a tributary of the Yellowstone River, is widely reported to have been "the worst environmental disaster in state history" with cleanup still in progress. The amount of brine spilled in that pipeline event is roughly one percent of the amount proposed for storage in Crestwood's ponds.

Among the 141 salt brine leaks that occurred in 2012, in the North Dakota oil fields where Crestwood has a significant presence, 91 leaks caused a spillage of 336,000 gallons. The most recent major North Dakota spill occurred from a pipe managed by a Crestwood subsidiary between July 4 and July 10, 2014. One million gallons spilled, threatening the drinking water supply for a reservation for the 6000 members of the Mandan, Hidatsu, and Arikara tribes. The scale of environmental damage and public health risk remains uncertain at this point.

The level of concern which brine spillage has generated in Schuyler County is indicated by the number of technical precautions proposed by stakeholders and/or the company. However, leakage has already been documented to occur at least twice on a small scale at Crestwood's Schuyler site. The company's most recent brine spill in North Dakota, suggests that some level of risk remains.
Seneca Lake is already the saltiest of the Finger Lakes at 150-170 parts per million chloride, (versus 20 to 50 ppm for the other Finger Lakes), probably because its basin intersects the same salt strata from which the caverns are derived. The brine ponds proposed for the proposed LPG/butane storage project would contain enough salt to raise the Seneca Lake chloride concentration to an average of 220 ppm, close to the 250 ppm level shown to be a hazard to health. Further gas storage expansion, alluded to in Crestwood’s SEC filing, could raise the risk higher still.

Because of incomplete mixing and density gradients, southern lake sources would be at toxic levels with such a spill. Contamination would be greater at drinking water intake sites, and remediation would be difficult or impossible. Brine from an accidental or intentional breach of the pond’s dams, if it reached Seneca Lake—less than one-half mile downhill, would contaminate the source of drinking water for about 70,000 people. Other long-term water sources would be needed, or else large populations would be obliged to move.

The geologist responsible for Seneca water quality monitoring has cited yet a more serious concern: that increased pressure on the salt formation itself could cause an increased flow of lake basin salt deposits to leach into the lake. In that event, remediation for large-scale brine contamination would be impossible.

Few salt caverns are adjacent to a large lake. I could find no reported cases of catastrophic brine leakage in fuel storage facilities, but “brine gushers” have occurred in capped brine caverns. While a brine disaster would be scored a very low likelihood, it would certainly have extreme consequences, and risk mitigation should (and already has) been considered. When considered together with the other extremely serious incidents, it raises the consequence of salt cavern events into the extremely serious range.

Geology
Much concern has also been raised about the geology of the solution-mined caverns proposed for LPG storage. There has been a great deal of discussion over faults, partial roof collapses, rubble piles, undiscovered uncapped wells, and so on. In its detailed and very considered approval of an application to increase natural gas storage in Schuyler County in March, the Federal Energy Regulatory Commission (FERC) recently acknowledged serious concerns raised by independent geologists as to the stability of the Schuyler County salt caverns, but chose to support the company geologists’ reassurances and test results, merely requiring the company to monitor for gas leaks, ground subsidence, and the like.

Likewise, the New York State Geologist is obliged by statute to rule on the
integrity of caverns used to store hydrocarbons. Earlier this year, an official in that office did vouch for the “long track record” of the LPG caverns in a half-page document.\textsuperscript{36} I do not have the expertise to evaluate such concerns, reassurances, rulings, or requirements.

However, I would reiterate that it is not necessary to get into such detail for this level of analysis. From the risk assessment perspective it is enough to recall that standard and additional regulatory recommendations, routine mechanical integrity testing, and every other careful industry precaution have failed to prevent the eighteen serious or extremely serious salt cavern incidents. Some have been quite recent, and some have occurred in caverns with long safety track records.\textsuperscript{3}

It should also be noted that both oversight and industry literature report that using the salt cavern subset of bedded salt deposits like Schuyler County’s is riskier than using the salt domes common in the Gulf, perhaps for geologic reasons like those mentioned above, and especially when single well-bore holes are used,\textsuperscript{3} as planned in this case. The most instructive incident in this connection occurred at the Yaggy salt cavern facility seven miles northwest of Hutchinson, Kansas, a town of 44,000. Gases that escaped from the salt cavern due to human error traveled along sedimentary layers, erupted in the town itself, and resulted in fire, explosion, two deaths, one injury, and more than 250 evacuations. A detailed summary, map, and photos are appended. The unfavorable geology and irregular cavern shapes generally associated with bedded salt deposits\textsuperscript{3} probably push the likelihood of salt cavern failure somewhat higher in the medium likelihood category.

\textit{Risk tolerance}

This level of consequences per facility over twenty-five years--major fires, explosions, collapses, catastrophic loss of product, evacuations--is an unusual level of risk. Most other regulated industry sub-segments with a persistent serious to extremely serious facility incident rate of over thirty percent would be shut down or else voluntarily discontinued, except in wartime. Even in the petroleum industry, which is widely known to tolerate higher risks than most others, the rate of events per facility involving casualties is more than 20 times higher in salt caverns than in the alternative--depleted oil and gas fields.\textsuperscript{3}

In most other industries, including healthcare, automotive, and nuclear power, to name a few prominent ones, severe regulatory sanctions are imposed for catastrophic failure rates that are many, many times less than in salt cavern facilities. Salt caverns provide less than ten percent of U.S. working gas storage,\textsuperscript{22} and LPG transport has a relatively better safety profile as noted above. So even though salt caverns have shorter cycle times and may be closer to
market, the depleted oil and gas option alternative is clearly the better safety option from a national perspective.

To be sure, there have been many advances in assessment, extraction, storage, and transportation technology over the years in which salt caverns have been used for LPG and natural gas storage. Yet those advances have not yet led to a significant reduction in the rate of serious and extremely serious incidents. This may in part be lag time; the interval from commissioning to events has often been a decade or more. As in oil drilling, however, there may also be an increased tolerance for riskier project selection. Experience from NASA, nuclear power plants, car manufacturing, and healthcare consistently shows that to improve safety the critical requirement is not better technology but cultural change.

The QRA performed in 2012 for Inergy did not analyze previous salt cavern failures, the associated need for short- or long-term evacuation, or any of the hazards associated with road and rail LPG delivery. As noted above, their conclusion after omitting such considerations, was that Crestwood’s proposal was “no more dangerous than other similar facilities.” Sadly, of course, Yaggy/Hutchinson (see appended report) is “similar” in many respects. There have been scattered other reports and articles praising the safety of underground storage. The flaws and biases in those analyses from the point of view of Schuyler County are not hard to identify.

Figure 4 – Train, Truck, and Salt Cavern Risks

Other risks:
Diesel air pollution, traffic congestion, noise pollution, loss of jobs in tourism and wineries from “industrialization,” and many other risks have been discussed widely in community forums. They are not included in this analysis because they are unlikely to require emergency response, but they may well have health or
other consequences that are more difficult to quantify.

Risk summary and Conclusion:
None of the three possible events—among trucks, trains, caverns—is contingent on any of the other events, so for probability purposes they are considered "independent" risks. Combining the three independent probabilities, the likelihood for an LPG disaster of serious or extremely serious consequence within the county in the next twenty-five years is more than 40%. Most of this risk, of course, comes from the possibility of serious or extremely serious salt cavern events as described above.

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Figure 5 – LPG Storage Proposal Risk

The risk may be higher because of adverse road topography, possibly adverse geology, worsening traffic, or simultaneous train deliveries in and truck deliveries out. It could also drop lower over time, if both technology and safety culture improve.

Worst case scenarios are not hard to imagine. They would involve some combination of loss of life, loss of the lake as a source of drinking water, and/or temporary or permanent evacuation. Each of these scenarios has happened in other salt cavern facilities. Fortunately for the nation, but of no help to Schuyler County, most of the other events occurred in locations more isolated from population centers than ours.

By its very nature, there are large uncertainties in any risk assessment estimate. For the sake of argument, though, even if each of the three probabilities has been overestimated by 75 percent, the likelihood for serious or extremely serious consequences over twenty-five years is still more than 25 percent.40
From the perspective of health safety, based on this independent analysis, I conclude that the Crestwood proposal carries an unacceptable risk of extremely serious consequences.

Plans should always be made for acceptable risks. And some unacceptable risks can be made acceptable through mitigation. Other municipalities have reduce rail accidents, for example, by enacting ordinances to regulate train speed within their borders.

It is not yet clear, however, that any regulatory or mitigation effort to date has been effective in reducing serious and extremely serious salt cavern incidents frequency to a significantly lower level. Strong consideration should therefore be given to an alternative course of action.

Rob Mackenzie, MD, FACHE
Matrix risk analysis is used worldwide and in many industries. This typical example is from innsida.ntnu.no, a Norwegian university.


3 Quantitative Risk Analysis for the Finger Lakes LPG Storage Facility, prepared for Inergy Midstream by Quest Consultants, Inc., Norman OK 12-02-6822 February 16, 2012


5 www.gasfree.seneca.com


11 Michael Lausell, county legislator, at a meeting of the Schuyler County Legislature held on 7/14/14.


13 The Canvey report from 1978 cited in Lee's Loss Prevention, 2005, appendix 7/9 gives the frequency of rail tank car derailment as $1 \times 10^{-6}$/ km ($= 1.6 \times 10^{-6}$/mi), and the probability of overturning (when rupture is most likely to occur) as 0.2.
This frequency is lower than US data from the 1970s, but the US data has dropped and is now similar, at $2 \times 10^{-6}$/mi. I used the lower Canvey data, and ignored return-trips with empty tankers, the risk of which would be of lower consequence. GoogleMaps shows the rail distance from the south county border to the Crestwood site to be about 12 mi. Calculation: $1.6 \times 10^{-6}$ derailments/km x 0.2 overturnments/derailment x 12 mi/trip x 2 trips/day x 180 days/yr x 25 years = 0.0345 = 3%.

14 Distance and grade were calculated on mapmyrun.com, based on the segment of Route 14S starting at Lucky Lane in the Town of Reading and ending at 1st Street in the Village of Watkins Glen.

15 Dennis Fagan, Chair, Schuyler County Legislature, at its meeting on 7/14/14.

16 From mapmyrun based on the segment of Route 79W starting at Mitchell Street in the City of Ithaca and ending at Seneca Way.

17 www.ithacajournal.com

18 A web search on propane truck accidents yielded dozens of examples.

19 The Canvey Report from 1978 cited in Lee, Appendix 7/9 gives the frequency of road tanker accident involving spillage as $1.6 \times 10^{-8}$ /km traveled = $1.0 \times 10^{-8}$/mi traveled. According to the text, fire and/or explosion are very likely when spillage occurs.

A more recent general analysis, An Analysis of Fatal Large Truck Crashes, published in 2003 (DOT: HS 809 569) gives a much higher frequency of $2.5 \times 10^{-8}$/mile traveled.

The petrochemical industry claims its drivers are more careful than general truck drivers, and since the 1970s, the frequency of large fatal truck accidents per million vehicle miles has dropped by half (although the overall frequency of such accidents has remained constant because the number of miles traveled has doubled.) For these reasons I used the lower Canvey number. I discounted return trips with "empty" tank cars containing residual propane by 50% because the risk of explosion is still serious but of lower consequence.

GoogleMaps shows the road distance from the Crestwood site to the county border to be about 12 mi. Calculation: $1.0 \times 10^{-8}$ accidents with spillage/km(Canvey) x 12 mi/trip x 96 trips/day (4 per hour from 4am to 8 pm) x 180 days/yr x 25 years = 0.05184 = 5%.

20 Miaou, Shah-Pin, The Relationship Between Truck Accidents and Geometric Design of Road Sections, July 1993, Oak Ridge National Laboratory is perhaps the most widely cited reference.
An Analysis of Fatal Large Truck Crashes, DOT HS 809 569, June 2003.

www.eai.gov

The lower world-wide incidence is thought by some to reflect under-reporting in Europe and the former Soviet Union.

Calculation: 1.4% incidence per year x 25 yrs = 35%


ECL Article 23 Title 13 Underground Storage Modification Permit. DEC contact person listed as John K. Dahl, NYS DEC – Division of Mineral Resources, Bureau of Oil and Gas Regulation.

http://energyindepth.org/marcellus/we-asked-for-it-we-got-it-were-still-going-to-protest


One million gallons of fracking brine (a less saturated solution) was spilled into Charbonneau Creek; the Crestwood ponds are scheduled to hold up to 92 million gallons of more saturated brine.


Brine pond storage proposed precautions include double pond liner, leak detection system, interceptor trenches, groundwater monitoring, liner performance monitoring, liner replacement procedure, overflow prevention brine redirect plan to U.S. Salt facility, brine spill control plan, and emergency response plan, according to reference 27.

Limnology and Water Quality — *Seneca Lake at:*

Calculation: Storage lagoon of 9.2 x 10^7 gal = 3.48 x 10^{11} ml. Saturated brine in cold water contains 35.7 gm NaCl/100 ml yielding a total of 1.24 x 10^{13} gm NaCl and 7.5 x 10^{10} gm Cl. Dividing by Seneca lake volume of 15.9 x 10^{12} liter yields 0.47 gm/l = 47 mg/100ml = 47 ppm.

Peter Mantius, www.DCBureau.org

Andrew Kozlowski, Acting Associate State Geologist, to Peter Briggs, Director, NYSDEC, March 15, 2014.

Industry sources cite a reduction in incident frequency in the 1990’s, but this reversed with a spate of incidents in the early 2000’s.

Such flaws include:
  o failure to separate out salt caverns from other forms of underground storage
  o among salt caverns, failure to separate out bedded salt geology from salt domes
  o claims that salt cavern storage is safer than above-ground storage, which may be true but is beside the point
  o claims that the total number of casualties in underground storage incidents is lower than the corresponding number for other parts of the petrochemical distribution chain, without calculating incidence or frequency rates per facility, per mile, etc.
  o claims that human error and technology failures because they are potentially correctible, should be discounted from the risk analysis
  o failure to include transportation risks and other risks in analysis
  o desire to promote other types of underground storage
  o petrochemical industry funding

Calculation: \( (1 - (1 - 0.03) \times (1 - 0.09) \times (1 - 0.35)) = 42.6\% \)

Calculation: \( 1 - ((1 - 0.017) \times (1 - 0.05) \times (1 - 0.2)) = 25.4\% \)
Figure 35. Details of the Hutchinson incident. (a) Location map illustrating the site of the storage facility circa 11 km (7 miles) NW of the town of Hutchinson (b) WNW-ESE cross section showing the stratigraphy and structure of the area and the route taken by the gas from the storage cavern to the town (after Kansas Geological Survey). Images shown courtesy of Chief Forbes, Hutchinson Fire Department; Kansas Geological Survey; Kansas Department of Health and Environment, CUDD Drilling and Shannon Pope of RPC Inc.
An appraisal of underground gas storage technologies and incidents, for the development of risk assessment methodology, Health and Safety Executive, United Kingdom, 2/2008, pp 161-164:

Hutchinson – aka Yaggy, Kansas (USA)
The town of Hutchinson, with a population of around 44,000, lies around 11 km (7 miles) SE of the Yaggy Storage Field (Figs. 25&35), and provides the location for perhaps the most publicised and notorious UGS incident. The area is underlain by the Hutchinson Salt Member, which has been mined and extracted at Hutchinson since the 1880s and in which caverns had been created for storage purposes. At the time of the incident, the Yaggy storage facility played a key role in the supply of gas in central Kansas and was thus of national importance. It was one of 30 “hubs” in the USA national gas distribution system and one of 27 such cavern storage fields in the USA. The incident has been extensively reviewed elsewhere and so will only be outlined here, with emphasis on the history of the facility to illustrate the background to the disaster.

The Yaggy field was originally developed in the early 1980s to hold propane. The storage caverns were formed by salt dissolution using brine wells, drilled to depths between 152 m and 274 m in the lower parts of the Lower Permian Hutchinson Salt Member of the Wellington Formation (Fig. 35). The top of each cavern was located about 12 m below the top of the salt layer to ensure an adequate caprock that would not fracture or leak and the wells were lined with steel casing into the salt. The Wellington Shale Formation is overlain by the Ninnescah Shale, both of which dip to the west and northwest and form the bedrock to 15 m or more of the sands and gravels of the Equus Beds. These unconsolidated deposits underlie (Fig. 35) and provide the municipal water supply for the city of Hutchinson, and the city of Wichita to the east.

Decreasing financial viability eventually led to the closure of the propane storage operations in the late 1980s. The wells were cased into the salt and later plugged by partially filling them with concrete. In the early 1990’s, Kansas Gas Service, a subsidiary of ONEOK of Tulsa (Oklahoma), acquired the facility and converted it to natural gas storage. The existing caverns were re-commissioned, which required drilling out the old plugged wells, whilst further wells were drilled to solution mine additional caverns.

Mention is made of the Yaggy Storage Field consisting of 98 caverns in the Hutchinson Salt Member at depths greater than 150 m. It appears that at the time of the 2001 incident, the facility had about 70 wells, of which 62 were active gas storage caverns, at depths greater than 152 m. More than 20 new wells had been drilled and were being used to create new caverns for expansion of the facility (Allison, 2001a). The wells, with 90-120 m spacing, are located on a grid. A group of wells are connected at the surface via pipes and manifolds, allowing gas to be injected or withdrawn into all the caverns in the group simultaneously. The capacity of the Yaggy field was circa 90.6 Mcm (c. 3.2 Bcf) of natural gas at around 600 psi.

The incident at Hutchinson occurred on the morning of January 17th, 2001, when monitoring equipment registered a pressure drop in well S-1, which connected to a cavern being filled. The cavern could hold 1.7 Mcm of gas at an operating pressure of about 4.65 MPa (675 psi). This could, however, range from 3.8 to 4.7 MPa (550 to 684 psi). Later that morning a gas explosion occurred in downtown Hutchinson, around 11 km (7 miles) away and was followed by a series of gas and brine geysers, up to 9 m high, erupting about 3.2 km (2 miles = c. 9 miles from the storage site) to the east along the outskirts of Hutchinson (Fig. 35). The following day (18th January), a gas explosion at the Big Chief Mobile Home Park killed 2 and injured another (Fig. 35). The city promptly ordered the evacuation of hundreds of premises: many not returning to
their homes and businesses until the end of March 2001.

An investigation into the incident led by the Kansas Geological Survey (e.g. Allison, 2001a&b), found the leak was the result of a large curved slice in the casing of the S-1 well at a depth of 181.4 m, just below the top of the salt and 56 m above the top of the salt cavern. The damage to the casing resulted from the re-drilling of the old cemented well when re-opening the former propane salt cavern storage facility. Furthermore, ONEOK computer operators in Tulsa had overloaded the storage field caverns with natural gas, causing the initial leak. For at least 3 days the casing leak allowed natural gas at high pressure to escape and migrate upwards through the well cement and fractures in rocks above the salt. On reaching a permeable zone formed by a thin bed of micro-fractured dolomite near the contact between the Wellington Formation and the overlying Ninnescah Shale at around 128 m, the gas was trapped by overlying gypsum beds, preventing further vertical movement. The dolomite was fractured in the crest of a low-amplitude, asymmetric, northwesterly plunging anticlinal structure and the pressure of the escaping gas induced parting along the pre-existing fracture system. The gas migrated laterally southeastwards up-dip along the crest of the anticline towards Hutchinson, where it ultimately encountered old abandoned and forgotten brinewells that provided pathways to the surface (Allison, 2001a; Nissen et al., 2003 & 2004).

Geological investigations of the area suggest that the fractures in the dolomites were related to deep seated fractures that caused faulting in the overlying strata. These fractures then appear to have permitted undersaturated water to penetrate down and dissolve the Hutchinson salt, causing variations in thickness of the halite beds. Faulting in strata overlying the halite beds is greatest where dissolution has taken place and the edge of this dissolution zone trends NW close to the crest of the anticlinal structure. The dissolution of the halite appears to have locally enhanced structural relief, which led to further stresses, fracturing and preferred zones of weakness in the overburden, providing pathways for gas migration along the trend of the anticline (Watney et al., 2003a; Nissen et al., 2004b). Shut in tests on vent and relief wells following the incident revealed that with reduced gas pressures, fracture apertures were reduced and closed as pore pressures declined.

Basic volumetrics of the fracture cluster were calculated (Watney et al., 2003b):
· Length - 14 km (8 miles)
· Width - 300 m (1000 ft)
· Height - 0.9 m (3 ft)
· Porosity - 2%
· Fracture volume - 78,000 m$^3$ (2.8 Mcf)
· Estimated volume of gas released - 4.04 Mscm (143 Mscf) = 99,109 m$^3$ (3.5 Mcf) at 4.14 MPa (600 psi), 12°C (54°F)

Other storage facilities exist around Hutchinson and provide some useful information on storage pressure gradients. In late 1996 to 1997, Western Resources Inc. who operated a hydrocarbon storage well facility to the west of Hutchinson, submitted requests to the Kansas Department of Health and Environment (KDHE) to increase the maximum storage pressure gradient at their facility. KDHE regulate gas storage operations and operated a 'rule of thumb' that the maximum storage pressure gradient at such facilities in the Hutchinson area was limited to 0.75 psi/foot of depth. This was in order to prevent fracturing of the salt deposit. Following tests on rock cores, Western Resources Inc. requested increasing the pressure from 0.75 psi/foot of depth to a pressure gradient of 0.88 psi/foot of depth, which was actually close to the average fracture pressure gradient of 0.89 psi/foot of depth. One rock sample actually had a fracture pressure
gradient of 0.72 psi·foot of depth (KDHE, 1997).

The original downtown explosion site was related to a mineral water well in a basement that had provided mineralized waters for a hotel spa. The second explosion occurred at the site of an old abandoned brinewell. Images of a blazing well in the ruins of a building are available on the Kansas Geological Survey website (http://www.kgs.ku.edu/Hydro/Hutch/CUDD/2nd/set01.html). The same was found to be true for the numerous gas and brine geysers to the east of the city and the explosion at the Big Chief trailer park. When drilled, most old brine wells were only cased down through the shallow Quaternary “Equus beds” aquifer. The deeper parts of the wells were open-hole and thus provided ready pathways for the gas to escape to the surface. As many as 160 old brinewells are thought to exist in the Hutchinson area, either buried purposely or by subsequent development. It is unlikely that the well casings of these wells, if they exist, are sufficiently gas tight to prevent gas escapes and would present problems if future leaks were to occur.

Following the operations to trace and deal with the January leak incident, a second event occurred around six months later on the afternoon of Sunday, July 7, when one of the vent wells (Deep Drilled Vent well 64) suddenly started venting gas at high pressure (Allison, 2001c). The following day, the flare was reported at about 4 m in height and a pressure of 2.3 MPa (330 psi). Mechanical modifications to the surface pipework were made with the result that the flare reached an estimated 9 m - 30 to 12 m in height by Monday evening. Pressures had dropped to only 0.04 MPa (6 psi) by the following Wednesday; when the well was temporarily shut in. However, the pressures then increased quickly again.

Three possible causes for the flare-up were identified (Allison, 2001c):

- formation or near-well-bore damage – this is caused by the flow of water and gas through the near-well-bore environment. The permeability of the rock near to the well is reduced by the plugging the rock with fine materials, chemical alteration, or by changes in relative permeability as the volume of gas drops relative to the volume of water. Such “damage” routinely occur in oil and gasfield wells and is readily corrected.
- segmented pockets or fractures of gas remained - when the gas first entered Hutchinson it was under sufficiently high pressure that it may have forced open previously closed fractures in the rock layers or pushed its way into areas of “tight rocks”, i.e. less permeable rocks. As pressures dropped, it is possible that some fractures would have closed up again, isolating small amounts of gas in separate pockets, which over time, could have worked their way back into the main accumulation and into the vent well.
- another source of gas besides the Yaggy field exists – a scenario thought to be unlikely as well DDV 64 sits in the midst of a swarm of vent wells and it is hard to project a new source of gas that would affect only this one well.

The causes of the resurgence of gas were still being investigated in late 2001/early 2002. However, the results of this investigation, although it is likely that they have been published, have not been found during this study.

The incident in 2001 was not the first time that there had been problems with a cavern and well at the Hutchinson storage facility. On September 14, 1998, a shale shelf collapsed inside the field’s K-6 cavern, trapping a gamma-ray neutron instrument that had been used for monitoring purposes. Downhole video surveys revealed the casing on the verge of collapse at about 183 m, with the camera unable to go below 205 m, due to the blockage. In October 1998, a plan was established to remove gas from the cavern over the winter. In the spring of 1999, the radioactive tool was
buried under 1.2 m of concrete and the cavern’s main pipe was relined with bonding cement to block any possible leaks. The cavern is still monitored for radiation leaks.
Rob Mackenzie, M.D., FACS, FRCS(C), FACHE

Home Address:
6252 Bower Road
Trumansburg, New York 14886
607 387-3660 home
607 592-2508 cell
rmackenzie@zoom-dsl.org

PROFESSIONAL EXPERIENCE

2003 to 2013  President and Chief Executive Officer, Cayuga Medical Center, Ithaca, NY

2002 Oct-Dec  Chief Operating Officer, Cayuga Medical Center, Ithaca, NY
Responsible for hospital operations during three-month transition period prior to becoming President / CEO.

1993 to 2002  Vice President for Medical Affairs, Cayuga Medical Center, Ithaca, NY
Responsible for quality assurance, utilization management, credentials, regulatory compliance, strategic planning, and physician liaison functions.

Founding member of 150-member, for-profit association of independent physicians to address health care quality, medical business, hospital relations, and third-party reimbursement issues.

1995 to 2002  Medical Director, Cayuga Area Plan, Inc. (MD-Hospital Org.), Ithaca, NY
Founding leader of physician-hospital organization to address health care quality, do joint strategic planning, and unify payer negotiations.

Senior partner until 2002 retirement in an esteemed four-member general, vascular, and thoracic surgery private practice.

EDUCATION

BA  Harvard College, Cambridge, Massachusetts, 1975

MD  Albany Medical College, Albany, New York, 1979

Internship / Residency  University of Toronto general surgery internship, residency, Toronto, Ontario 1979-1984
LICENSURE AND BOARD CERTIFICATION
Diplomate, National Board of Medical Examiners
Diplomate, American Board of Surgery
Diplomate, Royal College of Surgeons of Canada
Diplomate, American College of Healthcare Executives
Medical License: New York 1984

ACADEMIC AFFILIATIONS
Instructor in surgery, Weill Medical College of Cornell University, 1993-2002

PROFESSIONAL ASSOCIATIONS
Albany Medical Center Class of 1979, President
Alpha Omega Alpha Medical Honor Society
American College of Healthcare Executives
American College of Physician Executives 1993-2007
American College of Surgeons, Fellow
American Red Cross, Tompkins County, Board of Directors 1997-2000
Cayuga Medical Center Medical Staff President, 1993
Cornell University College of Veterinary Medicine Advisory Council 2006-2012
Governance Institute, Editorial Board 2003-6
Health Planning Council, Tompkins County, Advisory Board 2003-2012
Iroquois Healthcare Association, Board of Directors, Vice Chair 2011
Legacy Foundation of Tompkins County, Board of Directors 2006-2010
Lifetime Healthcare Companies, Board of Directors 2004-2011
Medical Society of the State of New York
Medical Society of the County of Tompkins, Board of Directors 1997-2012
Paleontological Research Institution, Board of Directors, President 2010-11
Royal College of Surgeons (Canada), Fellow
Tompkins Health Network, Board of Directors
VHA Empire-Metro, Board of Directors Chair 2006-9
VHA CEO Safety Network Chair 2006-9

Born September 14, 1953
Retired January 1, 2013
ATTENTION—To officials at the New York State Department of Environmental Conservation and the Office of the Governor:

We who live in the Finger Lakes region and oppose Crestwood Energy's proposed LPG storage facility adjacent to Seneca Lake are calling on all decision-makers in Albany to protect our right to clean air and water by refusing to allow Crestwood to go ahead with its plan.

Just this week the city of Watkins Glen, at the southern end of Seneca Lake, joined 11 other municipalities on the lake to pass a resolution opposing this project. The Watkins Glen resolution echoes the concerns of other towns and area residents, as well as medical and health professionals, about the advisability of the proposed LPG storage facility:

--the project will generate greatly increased heavy truck traffic that local roads are not equipped to handle

--transforming the shore of Seneca Lake into an industrial zone is incompatible with the area's renowned wineries and tourism, on which the local economy depends and which are sustainable activities that can support our communities over the long term, long after the gas runs out

--the safety risks posed by this project, and the potential for contamination of Seneca Lake (drinking water source for over 100,000 people), have caused enormous concern among those of us who do not want the Finger Lakes to become a sacrifice zone for the enrichment of the fossil fuel industry and to the detriment of those who live here and depend on clean water and air for our health and our livelihoods

I'm sure you have received numerous letters spelling out the above points in more detail, so I'll make this short and sweet:

DO NOT ALLOW CRESTWOOD TO DESTROY WHAT WE HAVE SPENT SO MUCH TIME, MONEY, AND EFFORT TO BUILD: an economy that honors the scenic beauty and favorable agricultural conditions in the Finger Lakes and puts them to work for us in a sustainable way. Listen to the winery owners, the 12 municipalities along Seneca Lake that have passed resolutions opposing LPG storage, the independent scientists who warn of the salt caverns' instability, the refusal of local citizens to be bulldozed by a giant corporation that does not have its (our) best interests at heart. SAY NO to LPG storage on Seneca Lake.

Sincerely,

Sara Schaffzin
313 Utica Street
Ithaca, New York 14850
The Honorable Andrew M. Cuomo  
Governor of New York State  
NYS State Capitol Building  
Albany, NY 12224  

Dear Gov. Cuomo:

I am the owner of Matco Electric Co. headquartered in Vestal, New York, and I writing to express my support for the proposed Finger Lakes LPG storage project. As a local business owner, I know firsthand that construction projects like the Finger Lakes storage facility are crucial to positioning New York communities for success over the long run. The significant tax base provided by this infrastructure project will help to significantly reduce the tax burden that local resident would otherwise bear, and will provide funding for our schools and public services. The project will also help to reduce price spikes and ensure product supply for local consumers, and provides an environmentally-sound way to further use our natural resources (salt deposits) for the benefit of local communities.

I strongly urge you to provide the leadership necessary to show the public that New York is a good place to invest capital. Propane and natural gas have been stored in Upstate New York for decades, so we know this type of activity can be done safely and without negatively impacting other growing areas of our economy.

Sincerely,

[Signature]

Mark L. Freije  
President  
Matco Electric Co.

cc: Commissioner Joe Martins, DEC
The Honorable Andrew M. Cuomo
Governor of New York State
NYS State Capitol Building
Albany, NY 12224

Dear Gov. Cuomo:

I am the President of Turnkey Control Solutions, Inc. headquartered in Endicott, New York, and I am writing to express my support for the proposed Finger Lakes LPG storage project. As a local business owner, I know firsthand that construction projects like the Finger Lakes storage facility are crucial to positioning New York communities for success over the long run. The significant tax base provided by this infrastructure project will help to significantly reduce the tax burden that local residents would otherwise bear, and will provide funding for our schools and public services. The project will also help to reduce price spikes and ensure product supply for local consumers, and provides an environmentally-sound way to further use our natural resources (salt deposits) for the benefit of local communities.

I strongly urge you to provide the leadership necessary to show the public that New York is a good place to invest capital. Propane and natural gas have been stored in Upstate New York for decades, so we know this type of activity can be done safely and without negatively impacting other growing areas of our economy.

Sincerely,

[Signature]

08-29-2014

Robert "Rob" G. Schuerch
President
Turnkey Control Solutions, Inc.

cc: Commissioner Joe Martins, DEC
September 2, 2014

The Honorable Andrew M. Cuomo  
Governor of New York State  
NYS State Capitol Building  
Albany, NY 12224

Dear Gov. Cuomo:

Meridien Energy is a locally-owned pipeline construction company headquartered in Randolph, New York. We have more than 30 years of pipeline construction experience, and our more than 700 employees have helped build pipelines safely throughout the Southern Tier that benefit New Yorkers. We are writing in support of Crestwood’s proposed Finger Lakes LPG storage project.

Propane has long been transported and stored safely in the Finger Lakes, and propane remains important to communities and consumers in Upstate New York. Propane storage facilities provide significant tax base, which reduces the need for tax increases and eases the tax burdens of all of us. Local storage facilities help protect consumers against winter price spikes and ensure that supplies are available to local customers during the winter months, and lower fuel costs are important to attracting and maintaining businesses to our communities. Converting depleted salt caverns into storage is also an environmentally-sound way to maximize the value of our natural resources for the benefit of industry and our communities.

Given the nature of our business, we know firsthand that it is increasingly difficult to permit even the most environmentally-sound and consumer-beneficial energy projects today. No propane business is risk free, but industry has a track record of safe storage and transportation in the Finger Lakes dating back more than 50 years. We also know that the regulation, technological advances and emergency preparedness make these activities are safer than ever.

We urge you to approve the Finger Lakes LPG storage project and help the business community create the jobs needed to grow our local economies.

Sincerely,

James A. Schettine, Esq.  
President and General Counsel

cc: Commissioner Joe Martens, NYSDEC
[September 27], 2014

The Honorable Andrew M. Cuomo
Governor of New York State
NYS State Capitol Building
Albany, NY 12224

Dear Gov. Cuomo:

I am the owner of O'CONNELL ELECTRIC CO. INC headquartered in [VICTOR], New York, and I writing to express my support for the proposed Finger Lakes LPG storage project. As a local business owner, I know firsthand that construction projects like the Finger Lakes storage facility are crucial to positioning New York communities for success over the long run. The significant tax base provided by this infrastructure project will help to significantly reduce the tax burden that local resident would otherwise bear, and will provide funding for our schools and public services. The project will also help to reduce price spikes and ensure product supply for local consumers, and provides an environmentally-sound way to further use our natural resources (salt deposits) for the benefit of local communities.

I strongly urge you to provide the leadership necessary to show the public that New York is a good place to invest capital. Propane and natural gas have been stored in Upstate New York for decades, so we know this type of activity can be done safely and without negatively impacting other growing areas of our economy.

Sincerely,

[print name] VICTOR E. SALERNO
[print name of business] O'CONNELL ELECTRIC COMPANY, INC.

cc: Commissioner Joe Martins, DEC
RE: RESOLUTION RENEWING SUPPORT FOR FINGER LAKES LPG STORAGE'S LIQUID PETROLEUM GAS PROJECT AS MODIFIED AND CALLING FOR GOVERNOR CUOMO TO ALLOW THE DEPARTMENT OF ENVIRONMENTAL CONSERVATION TO ISSUE NECESSARY APPROVALS

WHEREAS, in October 2009, Finger Lakes LPG Storage ("Finger Lakes"), a subsidiary of Crestwood Midstream Partners LP (formerly known as Inergy Midstream, L.P.) submitted an application to the New York State Department of Environmental Conservation ("DEC") to construct and operate an underground Liquid Petroleum Gas ("LPG") facility in caverns developed on US Salt property in the Town of Reading (the "Project"), and

WHEREAS, the Schuyler County Legislature in June of 2014 elected to take a position in support of the Project based on its faith in, and assumed objectivity of, the DEC permitting process, and its own review of the relevant facts associated with the Project, and

WHEREAS, following the issuance by the DEC of a draft storage permit for the Project in November 2014, the DEC staff has repeatedly publicly defended the draft permit, endorsed the technical aspects of the Project and rejected or rebuffed each claim made by groups opposed to the Project, and

WHEREAS, subsequent to both the DEC and Legislature's action, there has been well organized opposition to the project based on perceived public safety threats centering around transportation and overall scope of the Project, and

WHEREAS, continued opposition in the form of civil disobedience has strained County law enforcement resources while adversely impacting public safety and County taxpayers, and

WHEREAS, the Schuyler County Council of Governments has been asked to support the Legislature's position on this significant community issue, and

WHEREAS, The Schuyler County Council of Governments considers the safety and wellbeing of its residents and visitors, preservation of natural resources, and the economic impact of tourism related industry and activity to be among its greatest priorities, and while originally satisfied that the proposed project would not adversely impact same, in the interest of being responsive and representative has sought modifications from Finger Lakes to directly address concerns raised by opponents of this Project, and
WHEREAS, Finger Lakes has agreed to the following modifications to the original scope of the project to include:

1. Reduction of propane storage capacity from 2.1 million barrels to 1.5 million barrels, eliminating storage of butane;
2. Elimination of the proposed brine pond on the lakeside of State Rt. 14;
3. Eliminate the construction of rail transportation infrastructure and transport by rail;
4. Eliminate the construction of truck transportation infrastructure and transport by truck;
5. Provide resources to support community initiatives to monitor and improve Seneca Lake water quality

WHEREAS, Finger Lakes has notified the DEC of its plan to modify the storage project accordingly, and in so doing has demonstrated a genuine desire to be responsive to community concerns, both real and perceived, and

WHEREAS, Crestwood Midstream Partners LP, in addition to being responsive to community concerns is Schuyler County’s largest taxpayer and one of its largest employers; and the Project if approved will only enhance that position, and

BE IT FURTHER RESOLVED, based on the facts set forth above, the Schuyler County Council of Governments concludes that Finger Lakes, through its submissions and compliance with all regulatory requests, including its most recent agreement to change the scope of the Project, has adequately responded to all legitimate community concerns and that the caverns to be used for LPG storage are well-suited for such use, and

BE IT FURTHER RESOLVED, that given all of the information supplied to the DEC supporting the Project and the time which has elapsed since the Application was submitted and the public hearings held, the Schuyler County Council of Governments hereby requests that the DEC finalize its review and make a final SEQRA determination and issue Finger Lakes the permit requested, and,

BE IT FURTHER RESOLVED, that the Town of Montour at the regular monthly meeting of the Board voted in support of the Project and hereby requests that the DEC finalize its review and make a final SEQRA determination and issue Finger Lakes the permit requested, and

BE IT FURTHER RESOLVED, that a copy of this resolution be sent to Governor Andrew M. Cuomo, DEC Commissioner Basil Seggos, Administrative Law Judge James McClymonds, State Senator Thomas F. O’Mara, Assemblyman Philip A. Palmesano, and elected official in the Town of Reading and Village of Watkins Glen.
Administrative Law Judge James McClymonds
NYSDEC Office of Hearing and Mediation Services
625 Broadway, 1st Floor
Albany, NY 12233-1550
RE: RESOLUTION RENEWING SUPPORT FOR FINGER LAKES LPG STORAGE'S LIQUID PETROLEUM GAS PROJECT AS MODIFIED AND CALLING FOR GOVERNOR CUOMO TO ALLOW THE DEPARTMENT OF ENVIRONMENTAL CONSERVATION TO ISSUE NECESSARY APPROVALS.

WHEREAS, in October 2009, Finger Lakes LPG Storage ("Finger Lakes"), a subsidiary of Crestwood Midstream Partners LP (formerly known as Inergy Midstream, L.P.) submitted an application to the New York State Department of Environmental Conservation ("DEC") to construct and operate an underground Liquid Petroleum Gas ("LPG") facility in caverns developed on US Salt property in the Town of Reading (the "Project"), and

WHEREAS, the Schuyler County Legislature in June of 2014 elected to take a position in support of the Project based on its faith in, and assumed objectivity of, the DEC permitted process, and its own review of the relevant facts associated with the Project, and

WHEREAS, following the issuance by the DEC of a draft storage permit for the Project in November 2014, the DEC staff has repeatedly publicly defended the draft permit, endorsed the technical aspects of the Project and rejected or rebuffed each claim made by groups opposed to the Project, and

WHEREAS, subsequent to both the DEC and Legislature's action, there has been well organized opposition to the Project based on perceived public safety threats centering around transportation and overall scope of the Project, and

WHEREAS, continued opposition in the form of civil disobedience has strained County law enforcement resources while adversely impacting public safety and County taxpayers, and

WHEREAS, The Schuyler County Council of Governments has passed a resolution in support of the Legislature's position on this significant community issue, and

WHEREAS, The Town of Tyrone has been asked to support the Legislature's position on this significant community issue, and

WHEREAS, the Town of Tyrone considers the safety and wellbeing of its residents and visitors, preservation of natural resources, and the economic impact of tourism related industry and activity to be among its greatest priorities, and while originally satisfied that the proposed project would not adversely impact same, in the interest of being responsive and representative has sought modifications from Finger Lakes to directly address concerns raised by opponents of this Project, and

WHEREAS, Finger Lakes has agreed to the following modifications to the original scope of the project to include:

1. Reduction of propane storage capacity from 2.1 million barrels to 1.5 million barrels, eliminating storage of butane;
2. Elimination of the proposed brine pond on the lakeside of State Rt. 14;
3. Eliminate the construction of rail transportation infrastructure and transport by rail;
4. Eliminate the construction of truck transportation infrastructure and transport by truck;
5. Provide resources to support community initiatives to monitor and improve Seneca Lake water quality.

WHEREAS, Finger Lakes has notified the DEC of its plan to modify the storage project accordingly, and in so doing has demonstrated a genuine desire to be responsive to community concerns, both real and perceived, and

WHEREAS, Crestwood Midstream Partners LP, in addition to being responsive to community concerns is Schuyler County’s largest taxpayer and one of its largest employers; and the project if approved will only enhance that position, and

NOW, THEREFORE, BE IT RESOLVED, based on the facts set forth above, the Town of Tyrone concludes that Finger Lakes, through its submissions and compliance with all regulatory request, including its most recent agreement to change the scope of the Project, has adequately responded to all legitimate community concerns and that the caverns to be used for LPG storage are well-suited for such use, and

BE IT FURTHER RESOLVED, that given all of the information supplied to the DEC supporting the Project and the time which has elapsed since the Application was submitted and the public hearings held, the Town of Tyrone hereby request that the DEC finalize its review and make a final SEQRA determination and issue Finger Lakes the permit requested, and

BE IT FURTHER RESOLVED, that a copy of this resolution be sent to Governor Andrew M. Cuomo, DEC Commissioner Basil Seggos, Administrative Law Judge James McClymonds, State Senator Thomas F. O’Mara, Assemblyman Philip A. Palmesano.

MOTION PAM
SECOND ED

ROLL CALL VOTE:
Tom Allen - AYE
Pam Grimmke - AYE
Christopher Bason - NAY
Edward Perry - AYE
Donald Desrochers - AYE

STATE OF NEW YORK
TOWN OF TYRONE

THIS IS TO CERTIFY, that I the undersigned Clerk of the Town of Tyrone, have compared the foregoing copy of resolution with the original resolution now on file in my office, and which was passed by the Town of Tyrone Board on the 13th day of December 2016, a majority of all the members elected to the Board voting in favor thereof, and that the same is a correct and true transcript of such resolution and of the whole thereof.

IN WITNESS WHEREOF, I have hereunto set my hand and the official seal of the Town of Tyrone Board this 13th day of December 2016.

Signature, Town Clerk

Affix Seal:
New York State Dept. of Environmental Conservation
Office of Hearing & Mediation Services
Honorable James McClumonds, Adm. Law Judge
625 Broadway, First Floor
Albany, NY 12233-1556
RESOLUTION # 81:

RE: Resolution calling for Governor Cuomo to allow the Department of Environmental Conservation to make a decision regarding Finger Lakes LPG Storage Liquid Petroleum Gas Project as modified.

WHEREAS, In October 2009, Finger Lakes LPG Storage (“Finger Lakes”), a subsidiary of Crestwood Midstream Partners LP (formerly known as Inergy Midstream, L.P.) submitted an application to the New York State Department of Environmental Conservation (“DEC”) to construct and operate an underground Liquid Petroleum Gas (“LPG”) facility in caverns developed on US Salt property in the Town of Reading (the “Project”), and

WHEREAS, following the issuance by the DEC of a draft storage permit for the Project in November 2014, the DEC staff has repeatedly publicly defended the draft permit, endorsed the technical aspects of the Project and rejected or rebuffed each claim made by groups opposed to the Project, and

WHEREAS, Finger Lakes has notified the DEC of its plan to modify the storage project accordingly, and in so doing has demonstrated a genuine desire to be responsive to community concerns, both real and perceived, and

WHEREAS, We the Town Board have refrained from taking any position on this matter in deference to the greater expertise and effort that the DEC and State was able to bring to the issue. We have waited patiently for a decision, however none has been forthcoming.

BE IT FURTHER RESOLVED, that given all of the information supplied to the DEC regarding the Project and the time which has elapsed since the Application was submitted and the public hearings held, The Reading Town Board hereby requests the DEC finalize its review and make a final SEQRA determination and,

BE IT FURTHER RESOLVED, that a copy of this resolution be sent to Governor Andrew M. Cuomo, DEC Commissioner Basil Seggos, Administrative Law Judge James McClymonds, State Senator Thomas F. O’Mara, Assemblyman Philip A. Palmesano, and The Schuyler County Legislature, The Schuyler County Council of Governments and the Village of Watkins Glen.

Councilperson Gill made a motion to accept the Crestwood resolution. Seconded by Councilperson Stamp.

AYES: Councilperson Stamp
Councilperson Miller
Councilperson Everett
Councilperson Gill
Supervisor Conklin

NAYS - None