Comments of Stephen Dungan MSW, LCSW - November 30, 2011

2011 Revised Draft Supplemental Generic Environmental Impact Statement: Section 2: New sections on socioeconomic conditions, impacts and mitigation

Over all, the 2011 Revised Draft Supplemental Generic Environmental Impact Statement (rdSGEIS) is flawed in many respects. Most glaring is the continued failure of NYDEC to account for, enumerate and design an SGEIS that fully accounts for the cumulative impacts of High Volume Slick Water Hydrofracking of Horizontally Drilled Gas Wells and the cumulative impacts of shale gas extraction and production in general. This flaw alone should require the New York DEC (DEC) and New York State to continue the Moratorium on such drilling and production and completely redraft the rdSGEIS accordingly fully reflecting all individual permit and cumulative impacts.

Similarly the *Section 2: New Sections on Socioeconomic Conditions, Impacts and Mitigation* of the rdSGEIS is seriously flawed in numerous ways and also fails to adequately address or propose mitigation of cumulative socioeconomic impacts.

My comments in this submission are related to the socioeconomic factors contributing to those flaws.

General Issues: This report, and the references to it in the rdSGEIS appears to have been thrown together in haste to justify allowing hydrofracking to go forward based on economic expediency. Regardless, it exemplifies the rather shoddy approach the DEC takes since there is little "socio" component to the report, no consideration of the negative impacts of shale gas industrialization on home values, village centers, community character, other industry, the environment, people's health, etc. It is a whitewash of the negative effects of shale gas industrialization. Details of some of the more glaring flaws are:

Financial Anomalies of Shale Gas: On June 26, 2011, The New York Times published an extensive investigation with gas industry insider and other references related to numerous financial anomalies related to Shale Gas and gas industry financial reporting. None of the significant findings of that investigation are addressed in the rdSGEIS. See: Drilling Down – Insiders Raise Alarm Amid a Natural Gas Rush, New York Times, June 26, 2011.
http://www.nytimes.com/2011/06/26/us/26gas.html?_r=1&scp=1&sq=Gas+Drilling+June+26%2C+2011&st=nyt

Highly Exaggerated and Unverified Gas Reserve Estimates: Gas industry sponsored reports, financial statements, and propaganda boast of estimates of a “bonanza of gas” and a “100 Year Supply” from shale gas.

> “Gas can enhance energy supply security through its abundance. There is enough gas to meet industrial, residential, commercial, and power generation needs.” – Jim Mulva, CEO Conoco Phillips

None of these estimates have been independently verified. Further, on August 24, 2011, the US Department of Energy released a report that slashed its gas reserves estimate by 80%. The DEC rdSGEIS economic report does not account for the DOE findings nor does it rely on any independently verified gas reserve estimates. Rather, it relies on statements like Mr. Mulva’s and others from the industry or industry sponsored studies.

Overstated Well Production Lifespan: The Economic section of the report is premised on 30-Year well life spans. There are no 30 year old horizontal gas wells. Actual well production data from the Barnett Shale Play in Texas reveal a very sharp decline in well production within the first few years of production and an increasing well failure rate.

> “Recent frac data from Barnett shows a play in severe decline… The Barnett’s well failure rate also continues to rise over time.” – Bernstein Research 2011

> “this over-estimate was found in Figure 4-10, Chapter 4 of the Economic Assessment Report prepared by Ecology and Environment, Inc. (incorporated late into the DEC’s rdSGEIS), where the “Production Profile Based on IOGANY’s ‘Low Estimate’” indicated a 30-year life-span. This was a simple error to spot: No horizontally-drilled, hydraulically slickwater-stimulated gas well in any shale formation has ever been shown to produce gas for thirty years. To the contrary, writing for The Oil Drum, Arthur E. Berman and Lynn F. Pittinger cited several thousand shale gas wells which dropped below commercially viable production between 5 and 12 years after “spudding”, with a collective half-life of about 8 years (1).”

- From Testimony of Ronald E. Bishop, Ph.D., C.H.O. Hamilton Hearing Room B, 2nd Floor, Legislative Office Building NYS Assembly Thursday, October 6, 2011
- (1). Arthur E. Berman and Lynn F. Pittinger (August 5, 2011), “U.S. Shale Gas: Lower Abundance, Higher Cost”; *The Oil Drum*. http://www.theoildrum.com/node/8212

Significant rapid well production decline is also being reported in the Fayetteville Shale Play in Arkansas:

> “Drillers expected and mineral rights owners were warned, but the dramatic, "parabolic" drop in productivity from natural gas wells - particularly those "fracked" into the shale of north-central Arkansas - can still be astonishing.

All of the 10 most productive wells that were operating at the end of 2007 are now producing gas at a fraction of their initial levels, and some have declined by 80 percent or more during the same time the value of the gas has gone down by almost two-thirds from its 2008 peak.
For example, a Seeco Inc. installation in White County, sold 925,960 MCF (thousand cubic feet) of gas in the nine months it operated in 2007. For all of 2010, that number was down to 156,290, and its rate of production in the first eight months of this year suggest that the 2011 total will be less than 100,000 MCF."   - Luke Jones - Arkansas Business
http://www.arkansasbusiness.com/article.aspx?aID=129276.54928.141420&view=all

Overestimated Job Creation Claims: The DEC is clearly overstating the number of jobs that might be created by shale gas exploration. Again NYDEC appears to have utilized gas industry estimates. Gas industry job creation estimates have recently come under close scrutiny which has revealed gross exaggeration of the actual numbers of jobs created.

"For example, the Marcellus Shale Coalition, a lobbying group for the natural gas industry, asserts that 88,000 jobs were created by the natural gas industry in Pennsylvania in 2010. In reality, according to Pennsylvania Department of Labor and Industry, the number of non-farm jobs created in Pennsylvania in 2010 was only 65,600, and almost half of those jobs were in the education and health, and leisure and hospitality industries." – Janette Barth, Ph.D., Economist – "The Truth About Those Industry Funded Studies" – March 4, 2011

Similar wild industry claims of gas production related job creation has occurred in Texas within the Barnett shale play. The Perryman Group reported 111,131 direct jobs created from shale gas production during 2008 in North Texas alone. In fact, for the year 2008 the US Bureau of Labor Statistics reported 116,500 total jobs related to gas production in the entire United Sates, both on and off shore.

In 2010, Chesapeake Energy claims that there were 53,200 gas industry jobs in the Fort Worth/Arlington area of Texas alone.   Again, for the year 2010 the US Bureau of Labor Statistics reported 93, 800 total jobs related to gas production in the entire United Sates.   Note the decline from 2008 to 2010.

The discrepancies are glaring to say the least. If based upon industry estimates and reports, the DEC rdSGEIS job estimates are equally unreliable.

More specific to DEC's over estimate of potential shale gas jobs to be created in New York is a November 29, 2011 analysis by Food and Water Watch:

99.974 Percent of Unemployed State Residents to Remain Out of Work if Fracking Moves Ahead in New York State

New Food & Water Watch Analysis Reveals the New York SGEIS is exaggerating the Job Creation Potential of Shale Gas Development

Washington, D.C.—As officials in New York determine whether to allow the controversial practice of hydraulic fracturing, the consumer advocacy group Food & Water Watch today released new analysis that finds that the Cuomo administration is exaggerating the potential of shale gas development to generate jobs for New Yorkers. *How New York State Exaggerated Potential Job Creation from Shale Gas Development* finds that New York residents should expect a mere fraction of the jobs promised by the New York State Department of Environmental Conservation.

Food & Water Watch examined the department's socioeconomic impact analysis and found that within its "average scenario", New York residents can only expect 195 new jobs associated with shale gas development. This would increase to over 600 new jobs for current New Yorkers by the tenth year of shale gas development, but after this tenth year, there would be virtually no new jobs. With over 755,000 New Yorkers unemployed as of August of 2011 according to the U.S. Bureau of Labor Statistics, 195 new oil and gas industry jobs would create new employment opportunity for only one-fortieth of 1 percent of those who are out of work.

"The number of actual jobs that would be created from shale gas development in New York is a very small fraction of what state residents have been led to believe from all of the industry's hype," said Food & Water Watch Executive Director Wenonah Hauter. "Such minimal economic benefits do not justify the short and long-term public health and environmental costs that would accompany drilling and fracking for shale gas."

According to Food & Water Watch, the Cuomo administration provides an inaccurate account of shale gas development's job creation potential by:

- Counting many jobs that would be filled by out-of-state workers, or by workers with shale gas industry experience who would relocate to New York permanently;
- Mischaracterizing a rapid pace of shale gas drilling and fracking as an "average" development scenario, one that would lead to more than 20,000 wells drilled in just three counties of the state (Broome, Chemung and Tioga);
- Failing to account for the negative impacts drilling and fracking would have on employment in other industries, such as tourism and agriculture;
- Assuming that shale gas wells will produce for 30 years when they may only produce for much shorter timespans;
- Misusing economic multipliers to estimate the economic spillover effect of gas industry jobs;
- Failing to provide methodological details necessary to validate the basis of these claims.

How New York State Exaggerated Potential Job Creation from Shale Gas Development is available here: http://documents.foodandwaterwatch.org/NewYorkJobCreationFromShaleGas.pdf

Questionable Shale Gas Production Estimates and Revenues : The DEC fails to take into consideration the actual economics of horizontal shale gas drilling and hydrofracking. At current and projected gas prices, it is likely that gas production from the Marcellus would be only a break-even proposition, at best. The weak economics of the Marcellus belie all the bullish projections of the DEC Economic report which fails to address the actual economics of shale gas production.
Actual production data from the Barnett reveal the fact that that shale gas wells deplete at a much higher rate than industry predictions. This has forced gas producers to drastically increase the number of wells drilled simply to meet cash flow needs. Independent and Industry financial analysts refer to this development as the "Drilling Treadmill" where more and more wells are needed to be drilled to meet cost and production demands.

Direct evidence of the Drilling Treadmill and an even more alarming related revenue decline can be found again in Texas. Audits of gas production revenues for the City of Fort Worth revealed a substantial decrease from $50 Million in 2008 to $19 Million in 2009. There was an increase to $38 Million in 2010. However, between 2008 and 2010, the number of wells drilled in the Fort Worth area increased 4 fold. Thus, four times as many wells were needed to produce 2/3 the revenue – clear evidence of gas field and well production decline and the Drilling Treadmill that does not even keep up.

Shale Gas Production Has Increased, But the Gas Supply Has Not : Shale gas production from 2000 to 2010 increased from 2% to 23% of overall gas produced during the period. However, overall gas production has remained flat. There is no new bonanza of gas! While shale gas has increased, conventional gas drilling and production has declined. Two factors account for the conventional gas production decline. First conventional gas production has been in a decline since the 1970's. Secondly, while still accounting for 77% of overall gas produced in 2010, essentially no new financing has been available for new conventionally drilled wells. Wall Street investors have shifted all their bets to Shale Gas in response to the gas industry hyped "Shale Gas Rush". Conventional Gas drilling is still viable, but financing for it has dried up in favor of the *promises* of higher returns for investors and lenders from Shale Gas.

Gas Industry Production Claims are Grossly Overstated : Further indications of gas industry overstatements of the bonanza of cheap and abundant shale gas are provided by the actual production data from the Barnett Shale play in Texas. Industry claims stated that high production levels would occur across the entire play. Independent review of well production data from the Texas Rail Road Commission reveled that only 6% of the 9100 wells examined were financially viable. Production data and revenues also revealed that wells drilled in only 2 and a half counties within the 17 county area examined accounted for the preponderance of viable wells.

Highest and Best Use????? : : As stated above, Barnett data reveal that as few as 6% of wells examined in that play are economically viable. Dr. John Lee of the Securities and Exchange Commission has stated that 80% of shale gas wells are not economically viable. New York State has a long history in Law, Regulation and Land use Planning based on the concept of Highest and Best Use of lands within the State. Given these dismal viability rates and industry overstatements, the DEC, The Governor and the Legislature must reexamine whether the headlong rush into shale gas exploration represents Highest and Best Use of our precious land resources.

Setting aside potential costly environmental and infrastructure impacts, alone the massive industrialization of our State's most pristine areas for such questionable returns must be examined in further detail. The loss of other industries and income sources forced out, the impacts on citizens, community character and costs to localities are similarly only briefly touched upon in the rdSGEIS and need much further study and cost benefit analysis.

Boom – Bust Experience Where Shale Gas Production Has Occurred :
Economic impacts related to gas extraction elsewhere in the country show a repeated cycle of Boom followed by Bust for those localities, not the pie in the sky industry predictions of positive local economic impacts. The booms experienced are short lived and focused on the local construction, trucking, hotels, restaurants, drilling related supply sectors and a few local land or mineral rights leasers. In a few years, after the drilling has been completed, these communities are left with a Bust characterized by:

- Massive Industrialization
- Haphazard Development
- Damage to Roads and Infrastructure
- Increased Demand for already stressed local services – police, EMS, fire, HAZMET, health care, social services, etc.
- Increases in the cost of living
- Escalating housing costs
- Non resident workers and a host of problems they bring with them

A 2007 Sublette County Wyoming Study where intense gas drilling has already occurred concluded that "With the exception of Teton County (the most expensive county in the nation), the cost of living in Sublette County is significantly higher than the rest of Wyoming or much of the country."

And from Garfield County Colorado, in the "Rural Impact" documentary, the Mayor of Silt CO, a city with a population of 6000, placed Silt's new gas drilling related unfunded infrastructure needs at $67 Million.

There is no accounting of the full impacts of the potential Boom-Bust economic cycles facing NY Communities in the rdSGEIS.

SEC 2009 Rules Allow Gas Industry to Book Un-audited Reserves : In 2009 the Securities and Exchange Commission issued new financial reporting rules relating to gas industry reserves estimates. The SEC however did not require independent auditing of those estimates. A 2010 Ernst and Young report indicated that most of the major gas companies drastically increased their gas reserves estimates following the rule change. These wild un-audited fluctuations raise serious questions at to industry claims of the abundance and security of the gas supply. The NYDEC should be examining what actual independent geological data, accounted for the sudden industry wide reserves increases.

Questionable Financial Viability of Shale Gas Production : Currently gas is selling at roughly $4.00 per unit. Clearly at this price, given high production costs, rapid well decline and high well failure rates, shale gas is economically not viable. The rdSGEIS fails to adequately address the overall economic viability of Shale Gas Production and the related impacts. It proposes to move ahead with permitting drilling despite the economic reality.

Gas Industry Perfect Storm : To meet Investor and share holder demands for high profits, it is clear that the gas industry must raise the price of its gas significantly above $4.00 per unit. Independent analysts have identified a gas industry "Perfect Storm" strategy to accomplish that at the expense of consumers. Deborah Rogers a committee member at the Federal Reserve Bank of Dallas spells it out very clearly in a YouTube presentation:

http://www.youtube.com/watch?v=bYzU4bEfJ5U&feature=channel_video_title

Rogers outlines a two pronged gas industry strategy to raise gas prices **astronomically** for us all. First is the very public "Pickens Plan", calling for the mass conversion of autos, truck fleets and power plants to "clean" gas. The gas industry has launched a massive publicity and lobbying campaign promoting shale gas wrapped in the red white and blue flag of energy independence, etc. The industry is investing tens if not hundreds of millions of dollars to very publicly convince policy makers and the public to increase the demand for gas.

The second part of the gas industry Perfect Storm strategy is much less public. It involves industry proposals to the federal government to convert Gas (LNG) Importation Facilities to Gas Exportation Facilities. These facilities were built using eminent domain granted by the government for the specific purpose to import gas from foreign sources in an effort to better secure our energy supply. The gas industry is now quietly lobbying the government permission to export our *great new independence producing gas resource* to more lucrative Asian markets. Gas is currently selling at $12-15 per unit in the Asian markets. So the combined plan is to increase domestic gas dependence while at the same time exporting gas essentially to get the price up via market pressure from Asia.

Voila! The Perfect Storm for us who will now be more dependent on gas and paying 3-4 times as much for it, making O & G companies and their Wall Street investors all the richer with rest of us (the 99%) paying for it through the nose and getting decidedly poorer.

The rdSGEIS does not reflect or comment on the juxtaposition of these two industry initiatives. It should. At the very least, New York State should join with the Federal government in blocking the exportation of NY and US produced gas when it has been identified a key component in attaining energy independence, especially if the result is dramatically increased costs for consumers.

Summary : The Economic impacts and mitigation sections of the rdSGEIS are inadequate, incomplete and in many instances based on gas industry data and reports that have been found to be overstated, inaccurate and misleading. Given the magnitude of the potential impacts that gas drilling hydrofracking and production will bring to New York and its citizens, the rdSGEIS must be shelved until a comprehensive independent economic analysis with appropriate mitigation recommendations is completed.

The DEC and New York State government should not be looking at shale gas in the vacuum of the drilling permit process. Clearly the Occupy Wall Street movement is raising nationwide awareness and concerns about wealth and power inequities. New York must not miss the forest for the trees on this issue and ensure that a thorough independent cost benefit analysis is conducted prior to proceeding. Failing to do so would be a profound mistake and a disservice to the citizens of New York State.

Respectfully submitted,

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