

New Hampshire

***Not The Next Minisink!***

Although not a KM/TGP project  
the story and results here  
will be the same!

This story **did** happen  
It **continues** to happen  
and **will happen here**  
unless  
we do things differently!

# Minisink, NY

- Small, rural town west of Brewster NY
- Compressor station (CS) added to existing Millennium pipeline in 2013...**12,260 horse power**
- Town fought to site CS outside of town on pipeline owned land...far from homes
- FERC voted 3-2 to site in town rather than the existing alternative. **Dissenters cited air quality would suffer**
- Town took to court and lost

## Minisink, NY

- **In the fall of 2014 SWPA-EHP initiated a community health and air pollution project in Minisink, New York. SWPA-EHP was fortunate to have a community willing to participate in this effort at monitoring impacts from a natural gas compressor station. The residents' cooperation in the air monitoring effort and in the health assessment process was a key factor in the project's success**

# Minisink, NY

- **Soon after CS operation commences residents report nosebleeds, headaches, asthma, rashes etc.**
- **SWPA-EHP conducts health and air quality study**
- **Volatile Organic Compounds, as expected, are captured in the air canisters**
- **Higher than expected Particulate Matter is present**

# Minisink, NY

- Elevated amounts of Particulate Matter **PM 2.5** are found, **17-20 micrograms per cubic meter** (mg/cm)
- **3 TIMES** the national average of 6.3 mg/cm
- Well above the **EPA limit of 12 mg/cm**
- Multiple episodes of **peaks into the hundreds, as high as 426**, were also recorded by Speck monitors
- **One home had a 24-hour average of 64**

# Minisink, NY

- **June 2015 Harvard study shows health risks with PM 2.5 levels above 6** include reduced lung function, heart disorders and increased blood pressure
- **Each 1 microgram per cubic meter increases the mortality rate by 1% for people over 65**
- **Dec 2014 Harvard study shows high PM 2.5 levels in the 3<sup>rd</sup> trimester of pregnancy DOUBLE the risk of newborn autism**

# Minisink, NY

- **No** pre-construction air quality or health assessments were done which nullified request to close Compressor Station
- Examples of chemicals found in canisters:  
  
Volatile Organic Compounds, Methane, Acetone, Ethylbenzene, Dichlorodifluoromethane, Ethanol, Ethylbenzene, Propene, Toluene, Trichlorofluoromethane, Trichlorotrifluoroethane
- Emissions noted on the next slide **DOES NOT include blowdowns**

# Compressor Station Emissions in Tons per Year

Emissions	Minisink 12,260 HP	New Ipswich* 41,000 HP
Carbon Monoxide	29.60	98.57
Nitrogen Oxide	28.80	95.90
Particulate Matter 10	11.04	36.76
Particulate Matter 2.5	11.04	36.76
Sulfur Oxide	7.20	21.60
Volatile Organic Compounds	3.43	11.42
Greenhouse Gases	61,751.00	205,630.83
Hazardous Air Pollutants	0.52	1.73

\*extrapolated estimate

Source Data – Minisink Compressor Station study by Wilma Subra,  
using FLIR camera observations

# Minisink, NY

- **Radium 226 and 228 are found in large quantities in Marcellus Shale gas**
- **Radium scale builds up in pipeline and CS which must be periodically removed and properly disposed of not dispersed into the environment**
- **Radium is known cause of bone and lung cancer**

# Minisink, NY

- **Dr. Wilma Subra's presentation on:**  
**"Potential Environmental and Human Health Impacts Associated with the Minisink Compressor Station"** summarizes the dangers posed to the communities of New Ipswich, Temple and Greenville if a station over 3 times as large is built
- (The link can be found in bold print on reference page)

# New Hampshire

- Kinder Morgan newsletter states that hazardous air pollutants have been removed prior to transfer into TGP pipeline system
- What is removed is water & sulfur...not other toxins, VOC's etc., and benzene is actually **increased** due to Glycol Dehydration Units
- KM's brochure for Emergency Responders states, Pipeline Incident Response Tactics -Conduct vapor monitoring for H<sub>2</sub>S, LEL and **Benzene, Refer to guidebook 130 Benzene**

# Dr. Wilma Subra

- **Speaking on the chemicals released from Compressors**
- **This is not the presentation mentioned on a previous slide**
- **<https://youtu.be/R403JjaxnTs?t=20>**

# Minisink, NY

- Currently, 7 miles from Minisink, in Wawayanda, NY, a gas fired power plant to produce electricity is under construction by Competitive Power Ventures. Citizens of the area have filed suit to stop construction
- To compensate for emissions exceeding local limits, **CPV bought emission reduction credits (ERCs)** from other companies not using their permitted amounts. Those companies are in Philadelphia, **375 miles away**
- CPV ERCs include credits for 75 tons of volatile organic compounds (VOC's), which the World Health Organization deems unsafe and carcinogenic in any amount. **So CPV's total VOC emissions annually are expected to be 140 tons, more than twice the local limit. On an average day, the plant would emit a volume of VOCs that could fill a large barn**

# Dr. David O. Carpenter

- **Director of the Institute for Health and Environment at the University of Albany**
- **He is speaking in Nassau NY which has a proposed compressor station similar to New Ipswich**
- [https://youtu.be/RPyXaAwHM\\_8?list=PL8i7qTPiGAF5VSxuf5kSavHGNxbs-JT6D](https://youtu.be/RPyXaAwHM_8?list=PL8i7qTPiGAF5VSxuf5kSavHGNxbs-JT6D)

# New Hampshire

- **Now slated to have one Compressor Station in New Ipswich with KM already saying they may add many more along the route**
- **Like Minisink the New Ipswich Compressor Station would be close to dozens of homes, the Temple Elementary School, numerous wells and the Greenville reservoir**
- **Air pollution would easily reach the centers of Temple, New Ipswich and Greenville...and beyond**
- **How long before WE get a gas fired power plant?**

# New Hampshire

- **At 41,000 HP, the New Ipswich CS would be over three times that in Minisink; at 80,000 HP it would be over six times its size**
- **Amount of toxins released and area of dispersion is proportional to size of CS**
- **Area of dispersion very dependent on height of stack and wind conditions**

What an 80,000 HP Compressor  
Station looks like Haven, Kansas

<https://vimeo.com/139932144>

# Earth Works

- **A non-profit dedicated to protecting residents from the effects of energy production and transportation**
- **Have worked with SWPA-EHP and Wilma Subra to study Marcellus Shale wells and transportation systems**
- **Findings include:**
  - **Actual pollutants from Compressor Stations exceed modeling estimates prior to construction**
  - **90% of individuals within a 2-3 mile radius of Compressor Stations experience health impacts**

# Blowdown & Fugitive Emissions are not considered in permit applications

- Blowdowns & fugitive emissions of raw gas should be considered in “modeling” a Compressor Station
- <https://youtu.be/yXLD3e7EoI8?list=PL8i7qTPiGAF5VSxuf5kSavHGNxbs-JT6D>
- Venting in Union County FL
- [https://youtu.be/6a\\_uV6c-Nu0?list=PL8i7qTPiGAF5VSxuf5kSavHGNxbs-JT6D](https://youtu.be/6a_uV6c-Nu0?list=PL8i7qTPiGAF5VSxuf5kSavHGNxbs-JT6D)

# Dr. David Brown

- To attain permits, pipeline companies use analysts who **manipulate** projected emissions levels to make them acceptable by Environmental Protection Agency standards, Brown says. Those standards are also weakened by industry lawsuits when the EPA tries to tighten them. “They delude themselves about emissions safety,” says Brown.
- By segmenting and averaging emissions over long periods and shortening technology operation periods, emissions levels can be calculated that fall below a level designated “major source.” A project designated “**major source**” necessitates an Environmental Impact Assessment that requires hazards to be more thoroughly investigated.

# Dr. Wilma Subra

**The rules and regulations have minor and major emitters. The companies always make sure they are just below the concentration that would make them major because when you're major you have to comply with a whole lot more modeling. They all want to be minor sources.**

# FERC, EPA & DES Will Protect Us?

- **FERC system is broken and is under fire to change. Fact is, the existing rules will be what FERC enforces**
- **The EPA has been weakened in recent years due to budget cuts. In addition when they introduce more stringent regulations, big industry lobbies, sues and ultimately negotiates a lowering of the intended requirements**
- **DES – remains to be seen – if like other states, if FERC approves, so will they.**

# Dr. Wilma Subra

- **Wetlands, endangered species, bird migrations etc., even schools, don't matter**
- **The only way you're going to stop this is through your Congressional Delegation**

## What Our Governor and Congressional Delegation Must Do For Us

- **Stop the project if there is no proven NET benefit to NH**
- **Demand air, water, soil and health testing before, during and after construction at KM expense by independent 3<sup>rd</sup> party**
- **Demand that the Compressor Station be designated a “Minor or Major Source” via independent 3<sup>rd</sup> party modeling**
- **Insist on electric compressors**

# Reference Material

# Dr. Wilma Subra

- **Has just completed a seven year term as Vice-Chair of the Environmental Protection Agency National Advisory Council for Environmental Policy and Technology (NACEPT)**
- **A five year term on the National Advisory Committee of the U. S. Representative to the Commission for Environmental Cooperation**
- **A six year term on the EPA National Environmental Justice Advisory Council (NEJAC) where she served as a member of the Cumulative Risk and Impacts Working Group of the NEJAC Council, and chaired the NEJAC**
- **Dr. Subra holds degrees in Microbiology/Chemistry from the University of Southwestern Louisiana**
- **She received the MacArthur Fellowship Genius Award from the MacArthur Foundation for helping ordinary citizens understand, cope with and combat environmental issues in their communities and was one of three finalist in the Environmental Category of the 2004 Volvo for Life Award.**

# Dr. David Brown

- **Dr. David Brown is the Public Health Toxicologist and Director of Public Health Toxicology for Environment and Human Health, Inc.**
- **He is the past Chief of Environmental Epidemiology and Occupational Health in Connecticut and was previously Associate Professor of Toxicology at Northeastern College of Pharmacy and Allied Health.**
- **He also served as Deputy Director of the Public Health Practice Group of Agency for Toxic Substances and Disease Registry (ATSDR) at the National Center for Disease Control and Prevention in Atlanta, Georgia**
- **Dr. Brown graduated from Cornell University in Biochemistry, received his MS from the University of California In Environmental Health, and his ScD from Harvard School of Public Health in Toxicology**

# Links For Presentation Data

<http://www.minisinkmatters.org/?p=147#comment-44>

[http://www.stopmcs.org/?page\\_id=383](http://www.stopmcs.org/?page_id=383)

<http://www.utne.com/environment/gas-compressors-and-nose-bleeds-zm0z15fzsau.aspx>

<http://www.stopmcs.org/?p=1072>

<http://www.environmentalhealthproject.org/wp-content/uploads/2015/06/Summary-of-Minisink-Results.Public.pdf>

<https://www.youtube.com/watch?v=RYdrSe-USxg>

<http://www.environmentalhealthproject.org/wp-content/uploads/2012/03/Compressor-station-emissions-and-health-impacts-02.24.2015.pdf>

# Links For Presentation Data

<http://www.hsph.harvard.edu/news/press-releases/air-pollution-below-epa-standards-linked-with-higher-death-rates/>

<http://www.hsph.harvard.edu/news/press-releases/fine-particulate-air-pollution-linked-with-increased-autism-risk/>

<http://www.utne.com/environment/gas-compressors-and-nose-bleeds-zm0z15fzsau.aspx>

<http://www.catskillcitizens.org/learnmore/subraminisink.pdf>

<http://www.stopmcs.org/?p=1185>

<http://www.minisinkmatters.org/?p=242>

<http://des.nh.gov/organization/commissioner/pip/factsheets/ard/documents/ard-ehp-22.pdf>

# Links For Presentation Data

<http://caselaw.findlaw.com/us-dc-circuit/1675630.html>

<http://www.minisinkmatters.org/?p=263>

<http://www.utne.com/environment/effects-of-air-pollution-zm0z15fzsau.aspx?PageId=3#ArticleContent>

[http://www.kindermorgan.com/content/docs/er\\_brochure.pdf](http://www.kindermorgan.com/content/docs/er_brochure.pdf)

[http://www3.epa.gov/air/ej/conference2007/Wilma Subra Bio.pdf](http://www3.epa.gov/air/ej/conference2007/Wilma_Subra_Bio.pdf)

***Please feel free to edit this presentation, changing names to the towns affected in your area!***

- Other medical related links of interest

- John Hopkins Study Pregnancy complications

<http://marcellus.com/news/id/130030/new-study-links-active-gas-wells-to-pregnancy-complications-preterm-birth/>

- Physicians for Social Responsibility latest study

<http://concernedhealthny.org/wp-content/uploads/2012/11/PSR-CHPNY-Compendium-3.0.pdf>

- Health Professionals open letter to FERC

<https://docs.google.com/document/d/1aTx7Xf1ISU8S4zUf-ofTifz5b-C7ZF3F2O8r6cJqBQ/edit>

## Other medical related links of interest

- Doctors urge Cuomo to put brakes on <http://www.timesunion.com/business/article/Governor-asked-to-put-brakes-on-natural-gas-6571163.php#>
- 100+ studies on health & safety re. fracking just released <http://ecowatch.com/2015/10/14/health-risks-fracking/>
- UTNE - the real cost of fracking <http://www.utne.com/environment/cost-of-fracking-zm0z14fzsau.aspx>
- CS & Toxic Gases <http://nopipelies.org/compressor-stations/>

# Next Steps

- **Get NH Medical Society to oppose this project...like NYMS**
- **Meet with Congressional Delegation to make this presentation....if you do nothing here's what is going to happen to thousands of NH residents...the time to act is now**
- **Hold large informational meetings to inform public**
- **Get this presentation and video out on social media**