SUMMARY REPORT
Discussion of Gas Infrastructure Projects for New York State
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Presenters:

Richard Kuprewicz, Accufacts Inc.
Cindy Zipf, Clean Ocean Action
Elizabeth Weinberger, Southwest Pennsylvania Environmental Health Project
David Brown, Southwest Pennsylvania Environmental Health Project
Larysa Dryzska, Concerned Health Professionals of NY

A. Discussion of Pipeline Safety and Integrity

1. Decisions about transmission pipeline construction are being driven by economic considerations. Given the high level of financial investment in constructing mega-pipelines, there is understandable pressure to get the system "on line" quickly to be able to move gas to market. Critical evaluations of pipeline safety are not being conducted. Pipeline companies and federal and state agencies are overstating the effectiveness of regulations and technology. Among other things, this is leading to shortcuts in pipeline integrity management.

2. Transmission gas pipelines have traditionally been sited in low population density areas. Proposed transmission pipelines in New York State transverse densely populated areas. The specifications and requirements for pipeline construction are constant regardless of location; no additional precautionary steps have been mandated for the construction of pipelines through densely populated areas, or in close proximity to a nuclear power plant.

3. Proposed pipelines will carry gas at a significantly higher velocity without adequate testing or safeguards. The proposed maximum actual gas velocity for some new pipelines is up to 100 fps, far greater than current transmission pipelines, which operate typically at 40 fps to 60 fps. Risk management principles are being ignored; testing data is either not being collected or not being made publicly available to assure proper vetting and application. Gas company assurances of "nothing to worry about" must be critically evaluated.

4. There is a systematic lack of oversight on large pipeline construction projects such as those proposed for New York State. State and federal pipeline safety regulators are spread too thin, and can only enforce minimum pipeline safety regulations. The Federal Energy Regulatory Commission **(**FERC) is a "siting" agency, with no purview over safety issues. The Pipeline and Hazardous Material Safety Administration (PHMSA) primarily monitors pipelines *after* construction, but is not resourced to handle construction projects of this size and complexity. Critical information regarding public safety is being withheld from public scrutiny.

5. There are major gaps in federal pipeline inspection requirements. For instance, there is no requirement for all welds to be inspected via radiograph, even in critical areas of high-density population. New grades of pipeline steel will require new welding techniques which must be tested and proven safe before applications in field construction.

6. Federal and state agencies fail to grasp the tremendous energy releases and dynamics associated with a pipeline rupture of very large (42-inch) diameter pipelines. Pipeline ruptures of this magnitude generate incredibly high gas rates with extremely high heat fluxes that can melt steel and vaporize aluminum at considerable distances. Agency studies using inappropriate models, particularly as they relate to the placement of the pipeline in proximity to vital structures at Indian Point, create the appearance of "risk management tampering" to produce a predetermined outcome.

B. Discussion of the proposed Port Ambrose Offshore LNG Facility

1. The project threatens public safety and is vulnerable to a possible terrorist attack. Liquid natural gas facilities are historically prone to explosions, and the prime location of this facility will make it an inviting target for potential terrorist activity. The port would be located within a few miles of the most densely populated area in the country, within the flight traffic areas of three major airports, and within a highly trafficked maritime navigational area.

2. The project threatens the local fisheries economy. Commercial and recreational fishermen will be excluded from large areas of important fishing grounds, which will extend for almost two miles from each docking buoy. Exclusion zones will no longer be available for anchoring, causing more congestion of remaining areas. Shipping and commerce may be delayed due to extra security measures required near the facility.

3. The ownership of the entity behind the project is unknown. The project is being managed by an investment group in Canada on behalf of a shadow entity with a bank account in the Cayman Islands. Efforts to determine the actual owner have proven unsuccessful. This lack of transparency regarding ownership raises questions about accountability and responsibility in the event of an accident or explosion.

4. The project will be used as an export facility, not an import facility as proposed. The United States has become a net energy exporter. There is no demonstrated demand for foreign natural gas. Instead, the Port Ambrose project, although officially having filed for use as an import facility, will be used to export gas to foreign markets. New Yorkers are being asked to shoulder all the risks associated with a major environmental and security threat while receiving no benefit.

C. Discussion of the potential health risks associated with gas delivery infrastructure in New York

1. Health problems being experienced by individuals living in or near areas of natural gas development or gas delivery infrastructure are more frequent and more severe than expected. Preliminary data from both Pennsylvania and New York are showing consistent patterns of health impacts that are associated with higher levels of exposure than those being reported by industry. These include skin rashes, eye irritation, gastrointestinal problems (pain and nausea), respiratory problems (difficulty breathing, coughing), upper respiratory problems (congestion, sore throat and nosebleeds) and neurological problems including headaches and

dizziness.

2. The health problems being documented now are acute; the long-term impacts of chronic exposures to carcinogenic and/or neurotoxic pollutants will become evident over time. For instance, formaldehyde, a known carcinogen, is a product of incomplete combustion emitted by natural gas-fired reciprocating engines at compressor stations. (Formaldehyde is also formed from methane in the presence of sunlight, which may be an important source given significant amounts of methane that are known to escape from compressor stations.) Several studies by the National Cancer Institute have shown that prolonged exposure to formaldehyde is associated with an increased risk of leukemia and brain cancer.

3. Federal emission reporting requirements do not reflect the reality of how individuals are being affected by emission patterns. Federal EPA ***compliance standards,*** such as Tons Per Year (TPY), measure average exposures over time, intentionally ignoring spikes and anomalies. By comparison, ***health standards*** specifically look for spikes and anomalies and seek to relate those exposures to human health impacts.

> *A frequent complaint from individuals living in areas of potential exposure is that their symptoms would appear in the middle of the night or early morning. Some reported that their children had nosebleeds during the night or awoke with headaches. It is well understood that when air stagnates, emissions tend to stay at ground level, increasing the likelihood of exposure in surrounding areas.*

4. The current methods of measuring emissions from compressor stations is inadequate, resulting in significant under-reporting of actual emissions. Teams from the Southwest Pennsylvania Environmental Health Project (SWPEHP), using Speck monitors for particulate matter (PM) and Summa canisters for VOC data, documented significantly higher emissions than have been reported by industry using traditional regulatory reporting methods. This monitoring also demonstrated a high level of variability from location to location and at various times during the day. The patterns of exposure were consistent with reported health impacts.

5. Blowdowns at compressor stations release large amounts of toxins, but these releases are folded into the yearly projected emissions. These large volume releases may be the most dangerous aspect of the siting of compressor stations in close proximity to residences and schools. PM2.5 data from Minisink, New York, showed peak PM levels in clusters of houses that far exceed the daily AQI on that day with no other obvious sources.

6. The most significant impact of gas infrastructure emission exposures will be on children. Children are generally more vulnerable to environmental toxins than adults, and their rapidly developing physiology provides a greater opportunity for biological interference. Increased risk of cancer is assured given the levels of exposure currently being reported, and neurological impacts from exposure to certain chemical emissions could result in learning and behavioral problems later in life.