Data Submitted (UTC 11): 8/30/2018 4:00:00 AM
First name: Heather
Last name: Cantino
Organization:
Title:
Comments: Re packet #20: carcinogenicity of fracking chem, mixtures, and degrad: 3 studies (Elliott et al.; Chen & Carter, and AJN)

AJN article now attached.

---------- Forwarded message ----------

From: Heather Cantino

Date: Thu, Aug 30, 2018 at 9:30 AM

Subject: packet #20: carcinogenicity of fracking chem, mixtures, and degrad: 3 studies (Elliott et al.; Chen & Carter, and AJN)

To: WaynePlanRevision@fs.fed.us, Roxanne Groff <roxannegroff1227@gmail.com>, Jean Andrews <filmfriend21@gmail.com>, Meghan Wynne <mwynne@muskingum.edu>

Your decision to lease Wayne minerals in spite of the evidence and you not having done a NEPA-based analysis of impacts will lead to significant increase in fracking in SE Ohio by enabling fracking on adjacent private land as well. The attached peer-reviewed research must be assessed in a meaningful NEPA-based analysis of cumulative impacts of your decision to lease, which will be your first such evaluation of fracking, in spite of your agency having gone ahead with frack leases over the past two years. Given the health impacts of already polluted air and water in Appalachia, this is an environmental justice issue. Please acknowledge receipt.

Unconventional oil and gas development and risk of childhood leukemia:

Assessing the evidence, Elise G. Elliott et al.,

Science of the Total Environment 576 (2017) 138-147

http://dx.doi.org/10.1016/j.scitotenv.2016.10.072

"H I G H L I G H T S

* Concerns exist about carcinogenic effects

of unconventional oil & gas development.

* We evaluated the carcinogenicity of

1177 water pollutants and 143 air pollutants.

* These chemicals included 55 known,

probable, or possible human carcinogens.

* Specifically, 20 compounds had evidence

of leukemia/lymphoma risk.

* Research on exposures to unconventional

oil & gas development and cancer

is needed.

From abstract: The objective of this analysis was to assess the evidence of carcinogenicity of water contaminants and air pollutants related to UO&G development. We obtained a list of 1177 chemicals in hydraulic fracturing fluids and wastewater from the U.S. Environmental Protection Agency and constructed a list of 143 UO&G-related air pollutants through a review of scientific papers published through 2015 using PubMed and ProQuest databases. We assessed carcinogenicity and evidence of increased risk for leukemia/lymphoma of these chemicals using International Agency for Re- search on Cancer (IARC) monographs. The majority of compounds (N 80%) were not evaluated by IARC and therefore could not be reviewed. Of the 111 potential water contaminants and 29 potential air pollutants evaluated by IARC (119 unique compounds), 49 water and 20 air pollutants were known, probable, or possible human carcinogens (55 unique compounds). A total of 17 water and 11 air pollutants (20 unique compounds) had evidence of increased risk for leukemia/lymphoma, including benzene, 1,3-butadiene, cadmium, diesel exhaust, and several polycyclic aromatic hydrocarbons.

#2 Characterization of the chemicals used in hydraulic fracturing fluids

for wells located in the Marcellus Shale Play Huan Chen and Kimberly E. Carter*, Journal of Environmental Management 200 (2017) 312-324, http://dx.doi.org/10.1016/j.jenvman.2017.05.069

From the abstract:

...This paper investigated the chemicals introduced into the hydraulic fracturing fluids for completed wells located in Pennsylvania and West Virginia from data provided by the well operators. The results showed a total of 5071 wells, with average water volumes of 5,383,743 [plusmn] 2,789,077 gal (mean [plusmn] standard deviation). A total of 517 chemicals was introduced into the formulated hydraulic fracturing fluids. Of the 517 chemicals listed by the operators, 96 were inorganic compounds, 358 chemicals were organic species, and the remaining 63 cannot be identified. Many toxic organics were used in the hydraulic fracturing fluids. Some of them are carcinogenic, including formaldehyde, naphthalene, and acrylamide. The degradation of alkylphenol ethoxylates would produce more toxic, persistent, and estrogenic intermediates. Acrylamide monomer as a primary degradation intermediate of polyacrylamides is carcinogenic....

#3

Fracking, the Environment, and Health, McDermott-Levy, Ruth PhD, RN al., American Journal of Nursing: June 2013 - Volume 113 - Issue 6 - p 45-51 doi: 10.1097/01.NAJ.0000431272.83277.f4,

https://journals.lww.com/ajnonline/Abstract/2013/06000/Fracking,_the_Environment,_and_Health.30.aspx

I did not have permission to download but trust that you will do so.

Sincerely,

Heather Cantino, Steering Committee Chair,

Athens County Fracking Action Network, acfanohio@gmail.com

on behalf of

Athens County Fracking Action Network, acfan.org, acfanohio@gmail.com

Buckeye Environmental Network (formerly Buckeye Forest Council), Roxanne Groff, board chair

Jean Andrews, Documentary Video Producer,"A Forest Returns: The Success Story of Ohio's Only National Forest as Told by Ora Anderson"

Concerned Citizens of New Concord Muskingum County, OH 43762

Meghan Wynne, Organizer

---------- Forwarded message ----------

From: Heather Cantino

Date: Wed, Dec 7, 2016 at 5:55 PM

Subject: Yale 2016 carcinogenicity study of water and air contaminants from fracking -- please acknowledge receipt

To: Kathleen Atkinson

If this study is considered irrelevant to your decision to lease Wayne minerals and thus enable fracking on adjacent private land as well, leading to significant increase in fracking in SE Ohio, please explain why. This information, apparently new to you, since you haven't done a NEPA-based analysis of cumulative impacts of your decision to lease, is highly relevant to leasing, especially given the health impacts of already polluted air and water in Appalachia. This is an environmental justice issue. Please acknowledge receipt.

From abstract: The objective of this analysis was to assess the evidence of carcinogenicity of water contaminants and air pollutants related to UO&G development. We obtained a list of 1177 chemicals in hydraulic fracturing fluids and wastewater from the U.S. Environmental Protection Agency and constructed a list of 143 UO&G-related air pollutants through a review of scientific papers published through 2015 using PubMed and ProQuest databases. We assessed carcinogenicity and evidence of increased risk for leukemia/lymphoma of these chemicals using International Agency for Re- search on Cancer (IARC) monographs. The majority of compounds (N 80%) were not evaluated by IARC and therefore could not be reviewed. Of the 111 potential water contaminants and 29 potential air pollutants evaluated by IARC (119 unique compounds), 49 water and 20 air pollutants were known, probable, or possible human carcinogens (55 unique compounds). A total of 17 water and 11 air pollutants (20 unique compounds) had evidence of increased risk for leukemia/lymphoma, including benzene, 1,3-butadiene, cadmium, diesel exhaust, and several polycyclic aromatic hydrocarbons.