

ILLINOIS POLLUTION CONTROL BOARD  
December 20, 1990

CITY OF GENOA, )  
 )  
 Petitioner, )  
 ) PCB 90-166  
 v. ) (Variance)  
 )  
 ILLINOIS ENVIRONMENTAL )  
 PROTECTION AGENCY, )  
 )  
 Respondent. )

DISSENTING OPINION (by J.D. Dumelle):

The majority has here found that a variance is needed. To me, the four quarters of data collected in 1988 (and inexplicably not commented on by IEPA) shows that a variance is, in fact, not needed.

But the 1988 data does show that at certain locations, (730 Park) levels as high as 6.8 pCi/l were measured. The standard is 5.0 pCi/l.

On December 16, 1990 the New York Times carried an article about the Nuclear Regulatory Commission ("NRC") titled "Agency Tightens Radiation Exposure Rules". The article pointed out that NCR had cut nuclear industry workers exposure to ionizing radiation by 80%.

Genoa's water has Radium-226 and Radium-228 in it. Both isotopes of radium generate ionizing radiation. Radium-226 emits alpha particles; Radium-228 is a beta emitter. We know from many scientific articles that radium behaves like calcium in the body. It goes to the bone where it can cause cancer. And since bone contains marrow it is highly probable that drinking radium-laden water will induce leukemia. The Radium-228 breaks down to Radon gas which exits the body from the lungs, mouth and nose. This passage of the radon gas irradiates the sinuses rendering the person susceptible to head cancer.

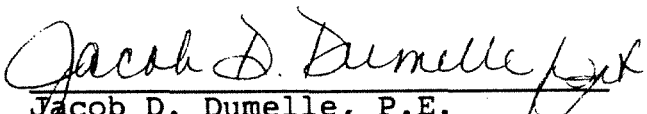
Let me note the high hazard of drinking radium-containing water even at the standard of 5.0 pCi/l. The risk of cancer over a lifetime is 70 times the usual "accepted" level of 1-in-1,000,000; namely 1-in-14,300. That is a very high risk.

Finally, the Genoa petition is defective because it contains no compliance program. Genoa has known since October 4, 1985 that it was not in compliance. What has it done to solve its problem in the past 5 years? The answer apparently is "Nothing". It stalled and wasted a half-decade. Yet many cities

in Illinois are solving their high-radium drinking water problems. The eastern half of DuPage County will get Lake Michigan water in May, 1992. Aurora and Joliet are switching from wells to nearby rivers, etc.

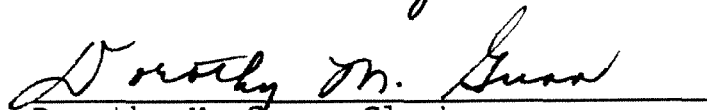
For the sake of babies and teen-agers who rapidly incorporate radium into their bone structures, I would urge Genoa to seriously consider the public health consequences of its high-radium water.

Lastly it appears to me that the majority order is internally inconsistent. Condition "H" has Genoa submitting the compliance Report two months before it is completed under Condition "G".

  
Jacob D. Dumelle, P.E.  
LCDR-CEC-USNR (Ret)  
Board Member

IT IS SO ORDERED.

I, Dorothy M. Gunn, Clerk of the Illinois Pollution Control Board hereby certify that the above Dissenting Opinion was submitted on the 22<sup>nd</sup> day of February, 1991.

  
Dorothy M. Gunn, Clerk  
Illinois Pollution Control Board