

SCR

87

# COMMITTEE REPORT

## SENATE

FURTHER: \_\_\_\_\_

3/17/78

Date: 3/20/78

Mr. President:

The Committee on RESOURCES has had SCR 87  
annulling a regulation of Dept. of Environmental Conservation

under consideration and (a majority of the committee) (the committee reports it back as follows)

- recommends it do pass                       recommends it do not pass  
 recommends it do pass with attached amendment(s)  
 recommends it be replaced with CS for \_\_\_\_\_

- and \_\_\_\_\_  new title                       same title  
 AND attaches a Letter of Intent                       New Fiscal Note  
 reports it back without recommendation  
 and recommends it be referred to the \_\_\_\_\_ Committee

MEMBERS SIGNING DO PASS:  
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OTHER RECOMMENDATIONS:  
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\_\_\_\_\_  
Chairman

# STATE OF ALASKA

**DEPT. OF ENVIRONMENTAL CONSERVATION**

JAY S. HAMMOND, GOVERNOR

POUCH 0 - JUNEAU 99811

March 17, 1978

The Honorable Kay Poland  
Chairman, Senate Resources Committee  
Alaska State Senate  
Pouch V  
Juneau, Alaska 99811

Dear Chairman Poland:

On March 8, Senate Concurrent Resolution No. 87, "Annulling a regulation of the Department of Environmental Conservation relating to drinking water," was introduced in the Alaska Legislature. The regulation in question, 18 AAC 80.040(b), became effective December 31, 1977, and reads as follows:

"No person who owns or operates a Class A or B public water system with surface water as a source may allow the use of water from that system without continuous disinfection."

This regulation applies to public water systems which serve, in the normal order of events, 25 persons per day for at least 60 days out of the year.

Although there are several acceptable means of disinfecting public water supplies, chlorination is the most common. Chlorination was first introduced in 1908. Immediately thereafter, instances of typhoid fever in those communities distributing disinfected water decreased dramatically. The worldwide reputation of United States water supplies as being safe to drink largely results from the almost nationwide disinfection of drinking water. This long-standing treatment technique is recognized today as the single most effective and inexpensive means of reducing waterborne diseases.

Although reported outbreaks of waterborne disease in the United States decreased dramatically from the 1930s to the 1950s, they have increased steadily since the 1950s, and quite dramatically since 1970. The cause for this increase is not completely understood, although it is most probably a combination of better reporting, and the growing contamination of water sources by domestic sewage.

The proposed resolution implies that Alaska's surface waters, in contrast to the national trend, are pure and safe to drink. This is manifestly untrue, as is demonstrated by a number of

serious outbreaks of illness in Alaska that are directly caused by inadequately protected water supplies. It must be understood that only a fraction of the total number of waterborne illnesses are actually reported. The best information available is derived from comprehensive epidemiological and engineering studies of sizable outbreaks. For your information, the following table presents some of the major outbreaks of waterborne diseases in Alaska in recent years. More historical data are available upon request.

<u>Date</u>	<u>Location</u>	<u>Source</u>	<u>Disease</u>	<u>Cases</u>	<u>Comments</u>
1954	Ketchikan	Lake	Salmonellosis	--	Seagulls contaminating lake
1949	Unalaska	Lake	Dysentery (probably shigellosis)	More than 20; 2 deaths	No disinfection
1971	Tok	--	Gastro-enteritis	112	--
1971	Anchorage	Well	Shigellosis	89	No disinfection
1967 (or 68?)	Kodiak	Island Lake	Dysentery	2 infant deaths; 4-5 families ill	No disinfection
1972	Cordova	Eyak Lake	Dysentery	400	Chlorinator not operating
1974	Juneau, Switzer Creek	Surface reservoir	Salmonellosis	28	Inadequate disinfection
1976	Russian Mission	Yukon River	Shigellosis	20-30	River water disinfected
1977	Craig	Surface	Dysentery	300	Chlorinator out of service

(-- ) indicates information not available

While the above table does not, by any means, include all the entire incidences of waterborne disease in Alaska, nor does it illustrate the degree of protection provided by the many water systems in the State which do provide disinfection, the fact that so many cases result from failure of systems to provide continuous disinfection indicates that the regulation will provide for a substantial increase in public health protection.

The incidence of diseases which may be waterborne is also of value in understanding the rationale for disinfection. While hepatitis A, shigellosis and salmonellosis can be transmitted by

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a variety of means, they also are commonly waterborne. Alaska's incidence of hepatitis A was nearly 14 times that of the State of Washington in 1976. The incidence of salmonellosis and shigellosis were 1.6 and 2.3 times that of Washington, respectively. As might be expected from the severity of the disease, hepatitis A statistics are probably more accurate than the others.

Although disinfection is not 100 percent effective in destroying viruses, such as is the causative agent in hepatitis A, it still is the single most effective technique for virus control.

Disinfection of public water supplies is, then, a first line of defense against waterborne infections. Yet this powerful, time honored, tool to ensure that the water we and our children drink is free from bacterial contamination need not be prohibitively expensive. Consider a water system serving 30 families of four. If water consumption is 250 gallons per capita per day, total supply would be 30,000 gallons per day. The capital cost for a chemical feed pump for a system of this size, delivered in Anchorage, is \$320. The chemicals used to provide disinfection would cost \$1.18 per pound. While the amount of chemical actually used is dependent upon the quality of the water being disinfected, a good estimate of chemical used would be about 14 pounds per month. This would result in a one-time shared cost of \$10.57 per family for the chemical feed pump, and about 55 cents per month for chemicals. Naturally, there would be additional costs such as installation and electricity. These costs, however, vary widely depending on the system, the source, and the availability of utilities and we give no estimate for them here.

I hope that this information adequately explains the need for disinfection of public water supply systems as set out in 18 AAC 80.040(b). One cannot escape the conclusion that choosing to not disinfect public water supplies served by surface waters will result in disease outbreaks that need not occur.

If you have any questions, or if additional information would be of value, please contact me.

Sincerely,



Ernst W. Mueller  
Commissioner

cc: Senator John Butrovich  
Senator Chancy Croft  
Senator John Huber  
Senator H. D. Meland  
Senator Mike Colletta  
Senator Clem Tillion