
ALBERTA
ENVIRONMENTAL APPEAL BOARD

Report and Recommendations

Date of Pre-Hearing Meeting- August 26, 1996

Date of Hearing - October 7, 1996

Date of Report and Recommendations - October 28, 1996

IN THE MATTER OF Sections 84, 86, 87, 91, 92 and 93 of the *Environmental Protection and Enhancement Act*, (S.A. 1992, ch. E-13.3 as amended);

-and-

IN THE MATTER OF an appeal filed by Mr. Joe Zink of Colpitts Ranches, with respect to Amending Approval #1298-00-01 issued by the Acting Director of Air and Water Approvals Division, Alberta Environmental Protection to Westridge Water Supply Ltd., on April 16, 1996.

Cite as: Joe Zink v. Acting Director of Air and Water Approvals Division, Alberta Environmental Protection

PANEL MEMBERSHIP

Dr. William A. Tilleman, Chair
Dr. Steve E. Hruday, P.Eng.
Dr. John P. Ogilvie

APPEARANCES

Appellant: Mr. Joe Zink, represented by Mr. Aleck H. Trawick, Q.C.
Blake, Cassels & Graydon (counsel)

Other Parties: Westridge Water Supply, represented by Frank Fleming, Q.C.
(counsel)

Mr. Doug Smith, Westridge Water Supply Ltd. (Westridge)

Mr. Thomas Doran, P. Eng., Doran Engineering Services Ltd
(Westridge).

Acting Director, Air and Water Approvals Division,
represented by Mr. Ray Bodnarek (counsel)

Witnesses: Mr. Brock Rush, P. Eng., Alberta Environmental
Protection

BACKGROUND

On May 15, 1996, Mr. Joe Zink, (the Appellant), represented by Mr. Aleck Trawick, Blake, Cassels & Graydon, filed a notice of objection with the Environmental Appeal Board regarding Amending Approval No. 1298-00-01 issued to Westridge Water Supply Ltd. (Westridge). The Amending Approval was for the installation of a permanent auxiliary raw water supply intake and pipeline to replace the unapproved temporary supply line installed in 1995 for the Westridge Water Supply Ltd. The Amending Approval was issued on April 16, 1996, by Pat Lang, Acting Director, Air and Water Approvals Division, Alberta Environmental Protection.

On May 16, 1996, the Board wrote to the Department of Environmental Protection, requesting all related correspondence, documents and materials. On that same date the Board wrote to the Alberta Energy and Utilities Board (AEUB) and the Natural Resources Conservation Board (NRCB) requesting both advise whether the matter was the subject of a public hearing or review under either of their Boards. On May 16, 1996, the AEUB and on May 17, 1996, the NRCB both advised that this appeal did not deal with a matter that had been the subject of any hearing or review under their Boards.

The Board wrote to all parties on July 12, 1996, advising that it would be conducting a pre-hearing meeting on August 26, 1996. The Board also advised that if the meeting did not result in the resolution of the issues, the facilitator would determine all of those matters set out in s.13 of the Environmental Appeal Board Regulation with respect to the (forthcoming) oral hearing.

THE PRE-HEARING MEETING

The pre-hearing meeting was held on August 26, 1996, in Calgary. Dr. Anne Naeth, a member of the Board, presided. According to the Board's standard practice, the Board called the pre-hearing in an attempt to mediate or to facilitate the resolution of this appeal or, failing that, to make arrangements for the oral hearing. The Board invited several representatives from each party to participate in this pre-hearing meeting and the attendance at this meeting was as follows:

- Mr. Joe Zink, represented by Mr. Aleck Trawick, Blake, Cassels & Graydon;
- Mr. Tim Belliveau, Westridge Water Supply Ltd., represented by Mr. Thomas Doran (Doran Engineering Services Ltd.);
- Mr. Kelvin Dykema, Municipal District of Rocky View No. 44, represented by Mr. Rob Strom;

- Mr. Raymond Bodnarek, Environmental Law Section, Alberta Justice, representing the Acting Director, Air and Water Approvals Division, Alberta Environmental Protection.

Following the discussion of several terms and conditions of mediation, the parties agreed that another pre-hearing date would be established to further discuss issues as they developed. On August 29, 1996, the Board wrote to all parties to inform them that the date for this pre-hearing would be set for September 11, 1996. A response to this letter was received from Mr. Thomas Doran. In his letter to the Board dated September 3, 1996, Mr. Doran stated:

“This letter is to advise the Environmental Appeal Board that Westridge Water Supply Ltd. (Westridge) do not wish to delay the scheduled Appeal Hearing nor do we wish to delay the construction of the captioned water line, in order to facilitate protracted negotiations with the Colpitt Ranches. Westridge attended the pre-hearing meeting and are of the opinion that the Colpitt Ranch has failed to show any adverse impact from the proposed project. We believe Mr. Zink represents his own position with regards to development in the area, more than he represents the interests of Mr. Colpitt and his ranching operation. Since we cannot understand the claim of adverse impact, we do not have a basis for negotiation nor a purpose for further meetings.”

On September 6, 1996, the Board responded to Mr. Doran’s letter stating:

“As discussed at the pre-hearing on August 26, 1996, a mediation or pre-hearing meeting requires the cooperation of all parties. From the correspondence you have provided, it is clear that this is not the case and that holding another pre-hearing at this time would not result in resolution.”

In light of the circumstances, the Board set a hearing on September 23, 1996. Written submissions were requested from all parties by September 13, 1996, and were subsequently received from all parties by that date. Correspondence was received from Mr. Aleck Trawick, counsel for Mr. Zink, that the date of September 23, 1996 was not possible for him as he was participating in examinations

which had been set pursuant to a court order. Therefore, the hearing date was rescheduled for October 7, 1996. On September 18, 1996, the Board wrote to all parties notifying them of the new hearing date.

THE HEARING

STATEMENT OF ISSUES TO BE DECIDED

Based on the documents filed to the Board, the evidence of all parties and the arguments, the primary issues raised were:

1. Is the appellant directly affected by Amending Approval 1298-00-01?
2. If the appellant is directly affected, are there grounds, in fact or law, to allow the appeal?
The primary grounds to consider were:
 - (a) was the A/Director justified in issuing an Amending Approval, as a *routine* amendment, thereby foregoing public notification and the corresponding opportunity for the appellant to provide input directly to the permit approval process? (The answer to this question affects the soundness of the Approval.)
 - (b) was the Amending Approval issued for an auxiliary water line based on reliable information in the application regarding all the issues relevant to the intake relocation and the intentions of the applicant for actual use of the auxiliary intake?
 - (c) do the direct effects of the Amending Approval on Colpitts Ranches warrant suspending the Amending Approval, or modifying it in some manner or resubmitting it for review by the Director?

SUMMARY OF THE EVIDENCE

Evidence of Mr. Zink

Colpitts Ranches has operated at their current site since 1921 with a wide range of agricultural activities including grazing of cattle. The ranch near Springbank on the western boundary of Calgary has experienced growing residential and recreational development such that its fence line is now subject to development on all sides.

Mr. Zink appealed the approval of the permanent auxiliary intake because it is to be located within approximately 30cm of his fence line, where a temporary emergency intake has been located since the floods in June of 1995. This water system serves hundreds of residents west of Calgary in the subdivisions of Westridge Park, Deerwood Estates, Springland Manor, Rosewood, Horizon View, River Ridge Estates, Alandale, Niven and Dorotei/Sunset Estates. Mr. Zink argued that this location will affect his ability to manage the pasture immediately adjacent and upstream of the intake, within the scope of normal, good agricultural practices for cattle grazing. Mr. Zink presented a series of three photographs¹ displaying the area around the location in dispute which were subsequently located on maps of the region² by Mr. Doran and accepted as accurate representations of the locations described. Exhibit 5 showed a water channel on Mr. Zink's property looking east towards the fence and the intake location. Mr. Zink maintained that this channel drains across his property eastward towards the intake location and this contention was later supported in testimony by Mr. Doran who maintained that the source of water for this channel was a spring located some 50 to 60m west of the fence, clearly within Mr. Zink's property. Mr. Doran's testimony and his map³ also

¹ Exhibits 3, 4 and 5.

² Exhibits 22 and 23.

acknowledged that this channel collected surface runoff from the Colpitts Ranch pasture west of the fence line.

Mr. Zink indicated that he did not fault Alberta Environmental Protection for approving the emergency temporary water intake at this location following the floods of spring 1995 because he understood the problems created by the flood. However, he noted that his concern about potential for contamination of the raw water supply accessed by this intake was strongly influenced by the potential consequences of his legal uses of the pasture. While the pasture was flooded, he was unable to graze cattle at this site. However, under drier conditions, this pasture could be used and Mr. Zink noted that there was substantial opportunity for cattle to deposit manure which would inevitably raise the potential for contamination of the surface drainage and therefore the raw water supply taken into the waterworks from this new intake location.

Mr. Zink also noted that manure spreading was a valid agricultural practice necessary to maintain productivity of this hay pasture. Finally, Mr. Zink noted that agricultural practices may include chemical applications. All these routine activities could cause runoff which could adversely impact the safety of the drinking water supply. In response to a Board question, Mr. Zink indicated that he did not currently use herbicides and would prefer to avoid their use, but he wished to maintain his right to do so in the future, within the confines of acceptable agricultural practices.

Mr. Zink annotated his concerns by reviewing a series of news stories about drinking water contamination from cattle being blamed as the cause of waterborne outbreaks of severe gastrointestinal illness (cryptosporidiosis) in communities such as Cranbrook, Kelowna and Milwaukee. In the case of Milwaukee, the stories referred to over 100 deaths being attributed to the disease outbreak.⁴

Mr. Zink noted that even though Westridge Water Supply Ltd. treated their water before distribution, they could very likely experience occasional equipment failures. He noted that a waterborne disease outbreak among the residents supplied by Westridge, if an agricultural source was even suspected, would bring immediate regulatory response⁵ directed at his otherwise legal ranching operation. He also contended that Alberta Environmental Protection apparently took no account of water quality in making their decision to proceed with the Amending Approval as a routine application and he argued that a site selected with full consideration of raw water quality and the potential for contamination would be in the best interests of all stakeholders, including Westridge Water Supply Ltd. and Alberta Environmental Protection acting in the interests of water consumers.

Under cross examination by Mr. Bodnarek, Mr. Zink was asked to admit that the current main intake source for Westridge Water Supply Ltd. was also affected by runoff from his land. Mr. Zink acknowledged this but maintained that dilution of runoff was an issue and the likelihood of Westridge experiencing concentrated contamination was much lower at its current intake location

⁴ Reported in newspaper clippings attached to letter of September 3, 1996, from Mr. Trawick to the Board submitted as an addition to the appellant's written submission.

⁵ The concern of the appellant is the operation of s.141 of the Environmental Protection and Enhancement Act (Act) which reads:
 141 No person shall release a substance or permit the release of a substance into any part of a waterworks system:
 (b) that causes or may cause the concentration of the substance or of any other substance in the potable water supplied by the system to vary from the specified concentration for the substance set out in any applicable approval or regulations.
 [emphasis added]

more than 200m outside of his fence line⁶ than it would be at the new location 30cm from his fence line on a drainage channel surrounded by his grazing cattle.

Mr. Zink was asked by the Board how he would answer his position being characterized as essentially a request to be protected from having his pollution come back to haunt him. Mr. Zink answered by agreeing that his position may sound like this, but he disputed the characterization of his activities as pollution because he is currently conducting completely legal agricultural activities, in keeping with best agricultural management practices. He believes his activities are only likely to become problematic if this drinking water intake is permanently placed too close to his property.

Mr. Zink concluded his evidence by asking for a “reasonable” setback to achieve some reasonable separation between his legal agricultural activities and the raw water intake for Westridge Water Supply Ltd., noting that “good fences make good neighbours.”

Evidence of Mr. Brock Rush

Mr. Rush was presented as a registered professional engineer acting as regional engineer for Alberta Environmental Protection. Mr. Rush presented Exhibit 6 which provided a summary of the background to the application and its approval. This summary outlined the circumstances whereby a temporary emergency, unburied water intake line extending some 400m from their treatment plant was installed by Westridge Water Supply Ltd. following floods in June 1995, which affected the security of their current main water intake located approximately 5m from the plant. The temporary intake had been installed with the knowledge of the Water Resources Administration Division of Alberta Environmental Protection and was subsequently approved by Water Resources Administration Division on September 28, 1995. Since the Air and Water Approvals Division was informed of the installation approximately one week after its installation, and because no application was made to this Division, the installation was regarded as an unapproved installation.

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Estimated from the plan submitted as Exhibit 7 by Mr. Brock Rush.

When Westridge Water Supply Ltd. became aware that they also required an approval from Air and Water Approvals Division, they applied for an Approval on March 18, 1996. Mr. Rush entered Exhibit 7, a plan for the proposed water intake and Exhibit 8, a summary of his actions in response to the application. Mr. Rush testified that because Water Resources Administration Division indicated that the source of the water remained unchanged, i.e. the Elbow River, he recommended to A/Director P. Lang that this should be handled as a “routine” amendment to the existing waterworks approval. He indicated that there was no requirement in his mind to consider raw water quality because Alberta Environmental Protection only regulates treated water quality, not intake water quality. Furthermore, he testified that the treatment plant was well established and had a good performance record.

Under further discussion of water quality, Mr. Rush indicated that he accepted the contention of Mr. Doran, the engineer acting on behalf of Westridge Water Supply Ltd., that the water at this location was flowing from underground gravels because the onus was on an applicant to verify the suitability of a water intake location. Mr. Rush stated that he could see no logic nor any reason why any approval holder would intentionally seek a water source which would be more difficult to treat, so he accepted and gave deference to their assurance that this new source would be an improvement. Consequently, Mr. Rush did not inspect the proposed site for the new intake prior to making his recommendation to issue the Amending Approval.

In support of his judgment on these issues, Mr. Rush entered Exhibit 12, which he received by fax September 30, 1996 (subsequent testimony from Mr. Doran established that his letter to Mr. Rush was incorrectly dated as August 12, 1996). This communication provided a memo from Mr. T. Belliveau of Westridge Water Supply Ltd. which attempted to summarize water quality at the location of the existing raw water intake and at the new auxiliary intake dating back to March 1995. Mr. Rush testified that the data supplied in this letter reassured him that Westridge Water Supply

Ltd. correctly judged that the new proposed location would provide higher quality raw water than their existing intake location.

Mr. Rush presented a brief overview of the treatment processes employed by Westridge Water Supply, as summarized in Exhibit 13. This treatment sequence was described as a multiple barrier concept which would be regarded as conventional treatment in the drinking water industry. He reviewed the compliance history of Westridge Water Supply Ltd. considering the past year or so. He commented on two occasions where they failed to meet the turbidity standard of less than 1 NTU⁷, instead reaching 7.7 NTU and 1.2 NTU, but these excessive values were attributed to the flood conditions of June 1995. He also noted a few occasions when the required chlorine disinfectant residual was not maintained. However, Mr. Rush reasoned that the plant had approximately double the required detention time prior to water distribution and according to the CT concept governing disinfection (disinfectant concentration multiplied by water detention time), a low concentration of disinfectant residual was compensated in these cases by the longer detention time provided.

Mr. Rush concluded his testimony by commenting on the circumstances in Cranbrook, Kelowna and other locations where waterborne outbreaks of cryptosporidiosis have occurred. He referred to a discussion with a Mr. Bill March, a person of unspecified status with the City of Cranbrook, who advised that Cranbrook relied upon chlorination as their only treatment process. He indicated that he believed this low level of treatment was also the situation in Kelowna and that these B.C. communities would not meet Alberta standards.

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Nephelometric Turbidity Units.

Under cross examination, Mr. Rush reiterated that he did not explicitly consider water quality in assessing the application for relocating the intake. In this regard he was guided by the judgment of the Water Resources Administration Division who judged both the current intake location and the proposed intake location as being the Elbow River because both are located on the Elbow River flood plain. When asked whether he satisfied the intent of section 6(2)(f) of the Approvals Procedure Regulation 113/93,⁸ Mr. Rush reiterated that he had no qualms about the Westridge Water Supply Ltd. plant being able to treat raw water, even after pollution by cattle, because they used a multiple barrier concept of water treatment. He therefore, saw no need to investigate the raw water quality as part of the approval review. In this case, the multiple barriers consisted of chemical addition, rapid mixer, coagulation, flocculation, clarification (by sedimentation), filtration and disinfection by chlorine according to Exhibit 13. Recent scientific information dealing with multiple barriers is found in the September 1995 edition of the primary professional journal devoted to the drinking water industry which assigned their cover story, with a picture of cattle grazing around a

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Section 6(2) of the Approvals Procedure Regulation states:

6(2) A review may address the following matters, without limitation:

(f) the adequacy of the quality and quantity of the potable water used in or produced by the activity to which the application relates.

stream, and several articles to dealing with the risks posed by *Cryptosporidium*. Specifically, a lead article⁹ described the multiple barrier concept and recommended treatment performance to protect against disease outbreaks under a heading of: “What can water systems do to keep *Cryptosporidium* out of tap water?” The article stated: “A multiple-barrier approach is necessary to keep oocysts out of tap water. This includes effective source water protection, optimized treatment (coagulation, flocculation, sedimentation, and filtration), and a sound distribution system....A turbidity goal of 0.1 NTU or less is recommended for treated water.” [emphasis added]

Mr. Rush advised that he also saw no particular application of section 141 of *Environmental Protection and Enhancement Act* (EPEA) concerning release of substances into a waterworks system to his deliberations on this Approval because he regarded this section as being separate from the approvals process. When asked about whether flow from underground gravels was valuable for a raw water supply he indicated that an underground source was not a requirement in this case, but that some water utilities along river systems found subsurface infiltration galleries to be an effective way of improving their raw water quality.

Concerning the water quality monitoring provided in Exhibit 12, Mr. Rush admitted to having no knowledge about how these analyses were done but he assumed they were standard raw water analyses. Furthermore, Mr. Rush was not certain whether the data represented mean values for multiple samples, results from composite samples or grab samples; but he presumed they were likely results from grab samples.

Mr. Rush indicated that he did not contact anyone in Milwaukee concerning *Cryptosporidium* (an issue raised in evidence) nor was he very familiar with what treatment system had been employed there. When it was put to him that this outbreak which infected over 400,000 residents occurred in a

⁹ Pontius, F.W. 1995. *Cryptosporidium*: Answers to Common Questions. *Journal American Water Works Association*. 87(9): p. 12.

treatment plant with filtration¹⁰, he replied that he believed that they had experienced some problems with treated water turbidity at the time of the outbreak. Concerning the matter of treated water turbidity, Mr. Rush was asked if he would be concerned by treated water turbidity levels of about 1.5 NTU.¹¹ He responded that he would be concerned about repeated high turbidity levels and would seek some explanation of their cause.

Mr. Rush also acknowledged that the CT concept for pathogen disinfection was subject to the influence of temperature and that disinfection was more difficult to guarantee at lower temperatures.

Mr. Rush acknowledged having visited the site of the proposed auxiliary intake in mid-August, 1996. He was not able to see or identify a flow from underlying gravel as a contribution to the water source. However, he indicated that he was satisfied to rely on the applicant's contention that this was the source of water at this point. Finally, Mr. Rush confirmed that he recommended to the A/Director that the application for an Amending Approval should be treated as "routine" because the raw water source was not changed, based strictly on the interpretation of source applied by Water Resources Administration Division, i.e. the Elbow River.

Evidence of Mr. Doug Smith

Mr. Smith was presented as a level II water treatment plant operator. He explained that he did the testing reported in Exhibit 12 and he prepared a handwritten table of data from his operating logs which he gave to Mr. Belliveau. Following some rather confusing and inconsistent evidence, it emerged that Mr. Smith chose particular dates where water quality data was available for the

¹⁰ At the time of the outbreak, the Milwaukee plant used chlorine, polyaluminum chloride coagulant, rapid mixing, flocculation, sedimentation and rapid sand filtration. Mackenzie, W.R. et al. 1994, A Massive Outbreak in Milwaukee of *Cryptosporidium* Infection Transmitted Through the Public Water Supply. *New England Journal of Medicine*. 331(3): 161-167.

¹¹ The turbidity peaks which occurred corresponding to the disease outbreak in Milwaukee were two days at 1.7 NTU and one day at 1.5 NTU. Mackenzie, W.R. et al. 1994. Ibid.

auxiliary intake and then looked up the water quality data for the existing intake which corresponded in time to the auxiliary water samples. The data were grab samples and the results of single analyses performed with Hach water testing equipment without any replication of analyses. The exact equivalence in time between samples at the two sites was not specified and the selection of data reported was variously described as either random or judgmental, but the Board was told that the data selection was not intentionally designed to include or exclude any particular data sets.

Under cross examination, Mr. Smith testified that he alone had been involved in collecting and analysing samples from any other prospective intake locations so that any evaluation of the quality of those alternatives would be reliant on the quality of his sampling and analysis. He confirmed that Mr. Doran had not been involved in any of this sampling or analysis program and no independent lab testing was used. Mr. Smith was not able to provide details of all of the alternatives assessed by Westridge Water Supply Ltd. but he did observe that the Elbow River was in his view, too turbid to treat. Likewise, Mr. Smith was not able to explain how data was reported in Exhibit 12 for the new auxiliary water intake for the months of March and April 1995, given that the emergency temporary line to this location was not installed until July of 1995.

Mr. Smith did not regard *Cryptosporidium* as any particular danger for the proposed raw water intake -- though he had looked into the possibility of monitoring for this pathogen about two years ago to determine costs and feasibility. However, he did indicate that Westridge Water Supply Ltd. had experienced treatment problems with their existing water supply, particularly involving odours in their distribution system. He expressed confidence that the proposed new site offered much better water quality and confirmed the intention of Westridge Water Supply Ltd. to rely on this new intake as their primary water supply.

Evidence of Mr. Thomas Doran

Mr. Doran was presented as a registered professional engineer acting on behalf of Westridge Water Supply Ltd. Mr. Doran was described as a general municipal engineer in land development and he did not regard himself as a water treatment specialist. Mr. Doran entered a brief history of the development,¹² an analysis of the possible alternative sites,¹³ and two maps of the area showing his assessment of drainage patterns¹⁴.

Mr. Doran explained that the data for the auxiliary location prior to June 1995 was obtained from a 2 inch (50mm) corlon line which had been run to this location on an experimental basis. Mr. Doran testified that the water source at the proposed new intake location was largely spring water from the underlying gravel because when he had viewed the site and sprinkled grass on the surface, he detected some movement in the water; it was not stagnant, even when there was no rainfall to supply surface runoff. He has also noticed that this location does not freeze over in winter. On the basis of these observations, Mr. Doran testified that although this site is significantly closer to Colpitts Ranches than the existing intake, the new location is, in his opinion, less vulnerable to contamination because of the contribution of subsurface flow.

Under cross examination, Mr. Doran did admit that surface runoff is not excluded from this new source location. He also indicated that the 2 inch corlon line, experimental line, was neither approved by Alberta Environmental Protection nor disclosed to them in the application for approval of the new permanent auxiliary line. Mr. Doran also testified that he was inclined to locate the new intake close to Mr. Zink's fence line because the spring source was actually located 50 to 60m west, on Mr. Zink's property. Mr. Doran testified that no hydrogeological studies have been undertaken to confirm the contribution of the underground spring to the flow at the proposed intake location.

¹² Exhibit 19.

¹³ Exhibit 20.

¹⁴ Exhibits 22 and 23.

Mr. Doran acknowledged that locating an intake closer to any source of contamination will make that intake more likely to draw in contamination than if located further away. Significantly, Mr. Doran also acknowledged that Mr. Smith apparently intends to use the new site as the *primary* water intake for the Westridge Water Supply Ltd. treatment plant, rather than as an auxiliary line. Finally, Mr. Doran acknowledged that the claims for having assessed the quality of water from alternative sites he summarized in Exhibit 20 are based entirely on the work presented by Mr. Smith and he is not aware of nor has he participated in any other investigations of alternative water supply locations.

In response to questions from the Board, Mr. Doran confirmed that the primary purpose of the application for an Amending Approval was to access a source of water which was easier to treat than the raw water currently available at the existing raw water intake. For this expectation to be met, the water at the new intake would have to be primarily derived from the subsurface source and be largely free of surface contamination from Mr. Zink's pasture. Yet, the design for the new intake structure (Exhibit 7), submitted and approved by Alberta Environmental Protection, has no substantive features to exclude surface runoff from the intake.

Admissions

The parties were invited to comment on the applicability of the term substance, as it appears in section 141 of EPEA. Agreement was reached by all parties that pathogens like *Cryptosporidium* were indeed substances within the intent of EPEA, and specifically caught by section 141.

THE ARGUMENTS

Mr. Aleck Trawick

With regard to the facts in evidence, Mr. Trawick argued that the Westridge application for the Amending Approval was really a case of wanting a replacement water supply, not an application for

a permanent auxiliary water supply as it was filed and approved. The underground spring source sought by Westridge Water Supply, if it exists, is by Mr. Doran's evidence located some 50 to 60m within Mr. Zink's land.

If the normal provisions of EPEA, section 69, governing the notice of applications for approvals had been followed, rather than treating this application as "routine", Mr. Zink would have been able to respond to the required public notification and make his representations to the Director prior to issuance of the Amending Approval and this appeal would not have been necessary. Finally, Mr. Trawick noted that contrary to suggestions in the letter of September 3, 1996 of Mr. Doran to the Board, Mr. Zink is clearly acting on behalf of Colpitts Ranches and he is not on some frolic of his own.

With regard to the matter of whether Mr. Zink is directly affected, Mr. Trawick noted the test on page 6 of the Marceau judgment on Kostuch, that directly affected must involve a personal interest rather than some broad community interest. The Board accepts the facts in this case clearly relate to a direct personal interest. However, even if there were some doubt about this claim, the facts create a legislative anomaly for Mr. Zink, frustrating the intent of the Act. Because the A/Director chose to treat this application as a "routine" amendment, public notification provisions were suspended so that those who might have a broader interest in the Amending Approval were denied any opportunity to provide input to the decision. Then if Mr. Zink was found not to be directly affected for the purposes of standing before the Environmental Appeal Board, Mr. Zink, whose property is within 30cm of the development under review, would be excluded from providing any input to this Amending Approval, strictly on the basis of a discretionary decision of the A/Director.

Mr. Ray Bodnarek

Mr. Bodnarek first addressed the question of whether Mr. Zink is directly affected by reminding the Board that the onus is on Mr. Zink to establish that he is directly affected. He noted that there are

two key points in the test of directly affected, one is a question of remoteness and the other is a concern about an unbroken chain of causation.

Mr. Bodnarek pursued a legal analysis of the unbroken chain of causation, seizing on the characterization of pollution coming back to haunt Mr. Zink. He noted that there are at least two intervening factors which had to arise for the chain of causation to be complete: there has to be some discharge, caused by Colpitts Ranches, not by Westridge, leading to contaminated water being drawn into the intake; and such intake will mean nothing provided that Westridge treats the water. He also reminded the Board that no effect on Colpitts will arise unless there is action taken by someone else (residents, Westridge or Alberta Environmental Protection) to take legal action against Colpitts. With respect to remoteness, Mr. Bodnarek argued: (1) if there is to be harm, the new water source must be worse than the present source; (2) it must not be properly treated; and (3) if it cannot be treated for any reason, some action must be taken (suits by affected parties) to result in an effect on Colpitts Ranches. Mr. Bodnarek stressed that the onus was on the appellant to substantiate all of these “ifs”.

On the merits of the appeal, Mr. Bodnarek argued that the Board must weigh all of the evidence to judge if the situation is better or worse with the auxiliary line in place. He noted that Westridge supplied evidence which was a combination of observation, anecdotal comments and some data, whereas Colpitts Ranches presented observation and anecdotal comments but no data. Mr. Rush testified that Westridge Water Supply Ltd. had a long history of successful treatment performance. Finally, Mr. Bodnarek made arguments concerning the discretion of the Director with regard to section 6 (2)(f) of the Approvals Procedure Regulation, 113/93.

Mr. Frank Fleming

Mr. Fleming essentially rested his case on the issue of directly affected. He noted that flooding of Colpitts Ranches would certainly be a direct effect, but the appellant had admitted that he did not

foresee being flooded by the installation of this intake structure. Alternatively, he might be directly affected if the intake would somehow cutoff his water supply, but the facts are that he is upstream of the intake so in argument his water supply is not affected.

Mr. Fleming concluded by arguing that the citation of potential future liability under section 141 of EPEA is like asking Westridge Water Supply to act as an insurer against future negligence by Colpitts Ranches.

ANALYSIS

Is Mr. Zink or Colpitts Ranches Directly Affected?

In a recent Environmental Appeal Board case on this point, the Honourable Mr. Justice Marceau discussed the test on directly affected.¹⁵

“Two ideas emerge from this analysis about standing. First, the possibility that any given interest will suffice to confer standing diminishes as the causal connection between an approval and the effect on that interest becomes more remote. This first issue is a question of fact, i.e., the extent of the causal connection between the approval and how much it affects a person’s interest. This is an important point; the Act requires that individual appellants demonstrate a personal interest that is directly impacted by the approval granted. This would require a discernible effect, i.e., some interest other than the abstract interest of all Albertans in generalized goals of environmental protection. ‘Directly’ means the person claiming to be ‘affected’ must show causation of the harm to her particular interest by the approval challenged on appeal. As a general rule, there must be an unbroken connection between one and the other.”

In applying the directly affected test to Mr. Zink’s appeal, the Board finds that Mr. Zink does meet the first part of the test referred to by the court. The legislation under which we operate requires individual appellants to demonstrate a personal interest in the decision appealed, and this he has done.

Mr. Zink has established that he is directly affected by the location of the proposed water intake in such close proximity to his ranching activity. This effect can be most clearly articulated by the creation of a substantive liability under section 141(b) of EPEA which states:

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Martha Kostuch v. The Environmental Appeal Board and the Director of Air and Water Approvals Division, 35 Admin. L.R. (2d) 160 (Q.B., March 28, 1996), the original decision is found at 17 C.E.L.R. (N.S.) 246 (EAB, August 23, 1995).

141 No person shall release a substance or permit the release of a substance into any part of a waterworks system:

- (b) that causes or may cause the concentration of the substance or of any other substance in the potable water supplied by the system to vary from the specified concentration for the substance set out in any applicable approval or the regulations.
[emphasis added]

This Amending Approval would place a water intake, which is by definition under EPEA, part of a “waterworks system”, within 30cm of the property line of the Colpitts Ranch on a drainage channel fed from a source some 50 to 60m within the Colpitts property - - receiving surface drainage from a pasture which has been normally used for grazing cattle.

The facts have established that cattle are a source of the protozoan parasite, *Cryptosporidium*, which has been responsible for several waterborne outbreaks of severe diarrheal disease. Protozoa are listed in Table 4 of Section 6 of the Fifth Edition of the Canadian Drinking Water Guidelines¹⁶ as parameters scheduled for review for guideline development. Upon their inclusion in the Canadian Drinking Water Guidelines they would become a substance regulated under the Potable Water Regulations of EPEA. Consequently, permitting the release of these substances (*Cryptosporidium* oocysts which are commonly present in the faeces of cattle) into the newly located water intake would be an offence under this section of the Act, as soon as the concentration exceeded the concentration specified in the guideline, which will most certainly be developed, given the number of waterborne outbreaks which have occurred. Recent analysis to determine an appropriate action level for *Cryptosporidium* oocysts proposed an action level of 10 to 30 oocysts per 100 litres of finished water.¹⁷ This means that an extremely high level of treatment would have to be maintained to eliminate the likelihood of an outbreak if the raw water was subjected to runoff from cattle manure, which can contain extremely large numbers of oocysts per litre.

¹⁶ Exhibit 14.

¹⁷ Haas, C.N. and J.B. Rose, 1995, Developing an action level for *Cryptosporidium*, *Journal. American Water Works Association*. 87(9): 81-84.

Under these circumstances, proximity of the intake to the Colpitts Ranches property is a significant issue that must be carefully considered by the Director in his scrutiny of the application. The concentration of oocysts emerging from an otherwise fully legal agricultural operation could be made illegal by the act of Westridge Water Supply Ltd. withdrawing water via the proposed waterworks intake immediately at the property line, with no provision for any dilution or any other protective, remedial or other natural degradation process or measure.

Contrary to Mr. Bodnarek's arguments about intervening factors breaking the chain of causation, the laws of nature will insure transport of the offending substances across the fence line without the need for any other providence; the violation of section 141(b) will be complete as soon as the offending substances enter the intake component of the waterworks system in sufficient concentration to cause a serious result. It would be trite to contend that this circumstance is not an effect upon Colpitts Ranches until Alberta Environmental Protection, at their sole discretion, decided to prosecute. The likelihood of contamination is almost assured by the unreasonable and arbitrary proximity of the intake to the Colpitts Ranches' fence line and the lack of any substantive measures to protect the intake from normal agricultural surface runoff.

Additional liability could be created for Colpitts Ranches if the offending substances breach the treatment plant and cause a waterborne disease outbreak, as happened in Milwaukee when their treated water turbidity criteria were not met (peak of 1.7 NTU), a problem which occurred with Westridge Water Supply Ltd. in 1995 (peak of 7.7 NTU) according to the evidence of Mr. Rush. Mr. Bodnarek's characterization of the evidence of Westridge being superior to that of the appellant because the former provided some data, carries no weight because the Board finds that the data in question¹⁸ carried negligible credibility. Again, the numbers selected by Mr. Smith in Exhibit 12 were either arbitrary or random, lacking scientifically approved methods that the Board normally finds in support of such evidence.

18

Exhibit 12.

Mr. Fleming's analogy of this appeal to Westridge Water Supply acting as an insurer against future negligence by Colpitts Ranches is not valid because the circumstances can arise without any negligence, illegal or improper actions on the part of Colpitts Ranches. Rather, the actions which make this scenario likely are entirely the result of Westridge Water Supply selecting an inherently vulnerable site to locate their water intake while failing to provide any measures to protect it from normal and foreseeable risks of contamination at the site chosen.

This situation might be understood by analogy to an individual who is lawfully operating a motor vehicle in Alberta. The Board takes judicial notice of the fact that motor vehicles emit pollutants in some concentration. Some of these pollutants, such as carbon monoxide, are rapidly lethal in concentrations which will arise readily if a motor vehicle is operated in a confined space. If some person sought approval to place a fresh air intake for a hospital within 30cm of a vehicle exhaust pipe at a normal parking place, an otherwise legal action of starting a car would risk dire consequences for the occupants of the hospital. These consequences would be wrought entirely because of the misguided decision to locate the air intake next to a vehicle exhaust pipe. The provision of some form of treatment of the intake air to account for the otherwise avoidable contamination acquired by the poor intake location would not substantially change the unwise and preventable nature of this decision which clearly creates an unnecessary liability for the vehicle owner, who would be directly and adversely affected.

In summation, Mr. Zink is directly affected by the decision of the A/Director. Furthermore, Mr. Zink's appeal has the direct effect of seeking preventive rather than reactive measures for dealing with a substantial, foreseeable, and avoidable health risk for the consumers of drinking water provided by Westridge Water Supply Ltd.

Are There Grounds in Fact or Law to Allow the Appeal?

- (a) Given the nature of the Amending Approval, and the fact that it provides drinking water for hundreds of residents, the A/Director was not justified in issuing the Amending Approval. Nor should the Approval have been treated as a “routine” amendment. The primary basis for the recommendation of Mr. Rush to advance a routine Approval was his interpretation that this Amending Approval sourced the same water (according to the Water Resources Administration Division), i.e. the Elbow River. This decision was incorrect because the Water Resources Administration Division perspective that the entire flood plain of the Elbow River is regarded as being the Elbow River is an arbitrary definition that appears to the Board as an administrative convenience in matters related primarily to water quantity. The facts in evidence have clearly established differences in *water quality* within various waters defined by Water Resources Administration Division all to be part of the Elbow River.

The Board believes that the provisions of Approval Procedures Regulation 113/93, section 6(2)(c) and 6(2)(f), should again be referred to:

- 6(2) A review may address the following matters, without limitation:
- (c) site suitability, including soils, air and water quality, groundwater conditions, site drainage, water supply quantity and wastewater disposal alternatives;
 - (f) the adequacy of the quality and quantity of the potable water used in or produced by the activity to which the application relates; [emphasis added]

These provisions repeatedly focus the discretion to consider the suitability of the intake site on the quality of water arising from site location. The Board believes that this discretion should have been included water quality in this case. The rationale for the intake relocation has been admitted to be based on issues of water quality differential so that raw water quality is clearly an issue for this drinking water intake location. Consequently, the Amending Approval should have been handled as a normal (not “routine”) application subject to full public notification procedures.

- (b) The applicant requested approval for a permanent auxiliary line to the proposed new intake location. The facts in evidence have established that the applicant intends to use the new line as the primary source of raw water for the Westridge Water Supply waterworks system. Consequently, the information supplied to Alberta Environmental Protection failed to provide full disclosure of intent. Other failures in the information supplied to Alberta Environmental Protection by the applicant included their failure to disclose the use of an unapproved “experimental” line for some period of time prior to seeking the emergency line approval after the floods of June 1995 and their representation of the water source as primarily arising from underlying gravels without any hydrogeological evidence to substantiate or quantify their claims.
- (c) The direct effects of the Amending Approval on Colpitts Ranches would involve creation of substantial liability for merely using their pasture land in an entirely legal and responsible manner to which they are otherwise entitled. Consequently, the appeal must be allowed and the Amending Approval must be returned to the Director for a reconsideration. If Westridge Water Supply Ltd. wishes to seek a new location for its water intake, they should be required to submit a well-documented application which fully justifies the location selected in terms of raw water quality and corresponding security for their consumers, while respecting the valid interests of their neighbours. Such an application should then be able to withstand full public scrutiny of all interested parties in accordance with the public notification provisions of the approvals process.

CONCLUSION

1. Colpitts Ranches and Mr. Joe Zink, its Manager, are directly affected by the decision of the A/Director to issue Amending Approval 1298-00-01. The Board agrees with Mr. Zink that the agricultural practices on the land adjacent to the proposed water intake could seriously be affected by the Amending Approval.

2. The A/Director erred in deeming the issuing of the Amending Approval to be a routine matter. In addition, considering the water intake to be drawing water from the Elbow River because it is in the flood plain of that river is fallacious.
3. The Board believes that the appeal should be allowed and the A/Director directed to reconsider the application for the Amending Approval with particular emphasis on the quality of the raw water and the factors that influence that quality, as specifically set out in the Recommendations to the Minister.

RECOMMENDATIONS

The Board recommends that the Minister of Environmental Protection return the application to the Director of Air and Water Approvals for a reconsideration based on new, proper evidence. Specifically, the Director should exercise his discretion under the Approvals Procedure Regulation 113/93, section 6(2)(c) to consider site suitability, water quality, groundwater conditions, and site drainage.

Further, with respect to section 92(2) and 93 of the *Environmental Protection and Enhancement Act*, the Board recommends that copies of this Report and Recommendations and of any decision by the Minister be sent to the following parties:

- Mr. Joe Zink, Colpitts Ranches;
- Mr. Tim Belliveau, Westridge Water Supply Ltd.;
- Mr. Thomas Doran, Doran Engineering Services Ltd.; and
- Mr. Kelvin Dykema, Municipal District of Rocky View No. 44;
- Calgary Health Authority;

- Mr. Raymond Bodnarek, Environmental Law Section, Alberta Justice, representing the Acting Director, Air and Water Approvals Division, Alberta Environmental Protection.

Dated October 28, 1996, at Edmonton, Alberta.

“original signed by”
Dr. William A. Tilleman, Chair

“original signed by”
Dr. Steve E. Hrudehy

“original signed by”
Dr. John P. Ogilvie

ORDER

I, Ty Lund, Minister of Environmental Protection:

yes Agree with the Recommendations of the Environmental Appeal Board and order that they be implemented.

_____ Do not agree with the Recommendations of the Environmental Appeal Board and make the alternative Order set out below or attached.

Dated at Edmonton this 13 day of November 1996.

“original signed by”
Honourable Ty Lund
Minister of Environmental Protection

____ Refer to Attachments (only if applicable)