BRITISH COLUMBIA

Environmental Appeal Board

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APPEAL NO. 2002-HEA-004

In the matter of an appeal under section 8 of the *Health Act*, R.S.B.C. 1996, c. 179.

BETWEEN:	Chevron Canada Ltd.	**APPELLANT**
AND:	Public Health Inspector	**RESPONDENT**
BEFORE:	A Panel of the Environmental Appeal Board Alan Andison, Panel Chair	
DATE OF HEARING:	June 25, 2002	
PLACE OF HEARING:	Vancouver, B.C.	
APPEARING:	For the Appellant: W.A. (Tony) West For the Respondent: Steven Chan	

APPEAL

This is an appeal by Chevron Canada Ltd. ("Chevron") of the February 6, 2002 decision of Rick Shevernoha, Public Health Inspector, Fraser Health Authority, to reject a sewage disposal permit application for 9628 Ladner Trunk Road, Delta, British Columbia (the "Property").

The Environmental Appeal Board has the authority to hear this appeal under section 11 of the *Environment Management Act* and section 8(4) of the *Health Act*. The Board, or a panel of it, after hearing all the evidence, may decide to confirm, vary, or rescind the decision of the Respondent.

Chevron seeks an order that the decision be rescinded and that a permit to alter or repair a sewage disposal system be issued.

BACKGROUND

The Property is owned by Chevron and is approximately 3,730 m^2 (0.9 acres). At present, there is a Chevron gas station located on the Property with a food store and public access washroom. The Property fronts Ladner Trunk Road and borders Highway 99 on the south side and the Highway 99 off-ramp on the west side. Approximately two thirds of the Property is covered by pavement while the remaining one third is a raised grassy area where the existing sewage disposal field is located.

Chevron initially applied for a permit to install a sewage disposal system on the Property on November 25, 1982. On November 30, 1982, Chevron's permit application was approved. The permit allowed for the construction of a sewage disposal system incorporating a treatment plant and disposal field to service an 8 hose gas station (4 double hose pumps).

The system was authorized for backfilling and use on October 31, 1984.

The sewage disposal system subsequently malfunctioned in 1986.

As a result of the malfunction, Chevron had the sewage disposal system on the Property inspected by W.A. West, of West and Associates Environmental Consultants. Mr. West made the following comments/recommendations:

> This site has the serious constraints of little or no natural porous soil, a high water table and a limited area for sewage absorption before the effluent passes into the adjacent ditch. We have recommended a maximum fill placement in order to fully utilize the area available for sewage renovation. If the effluent can be disbursed over a large enough area, it can then pass out of the mound over a larger face with little or no impact on the surrounding area. It must be stressed that no on-site system will be completely effective due to the constraints noted but the combination of treatment and disbursement in a mound that maximizes the area available should provide you with the best system.

Mr. West applied for a permit to repair the existing sewage disposal system on the Property, on behalf of Chevron. On April 28, 1986, final approval was granted for the repair, which involved construction of raised mounds in the disposal field.

On June 14, 1988, Mr. West wrote to the Ministry of Health to apply for a minor alteration to the sewage disposal system as part of a proposal to build a convenience store at the service station on the Property. Chevron was proposing to replace the existing kiosk on the Property with a new unit that would have a single washroom and would be expanded to offer pre-packaged food items, coffee and soft drinks. A double sink would be installed for washing dispensing equipment and coffee pots. Chevron indicated that the increase in sewage load on the system would be minimal.

On March 9, 1989, Chevron was issued an alteration permit for the sewage disposal system on the Property. The permit increased the daily sewage flow to 1,200 IG. The permit also contained a number of conditions including:

- The proposed building may NOT be operated as a food premises as defined under Section 2.01 of B.C. Ministry of Health regulations governing the sanitation and operation of food premises. Specifically, only PREPACKAGED, NONPERISHABLE food may be sold or offered for sale.

- The slope of the pipe between the new building and the package treatment plant must maintain a minimum drop of 1/8 inch per foot.

- The tourist information booth and path may NOT be relocated to the southeast corner of the lot, for it will be on top of the sewage disposal field as indicated on drawing #4821.

- Low volume toilets are to be installed in all washrooms [at] this site in an effort to reduce sewage effluent flows.

- No increase in sewage effluent volume to this sewage disposal system is to occur.

- No guarantee of continued function is to be implied by the issuance of this permit.

Chevron operated the service station and convenience store for a number of years without making any changes to the sewage disposal system. Then, on March 15, 1996, Chevron requested approval to upgrade the existing package treatment plant as it "is occasionally hydraulically overloaded due to surges in use." This problem was reviewed with the treatment plant supplier who recommended replacing the treatment plant. Chevron also planned to replace the toilets and taps with low flow units.

Chevron was issued a repair permit on April 3, 1996, and was authorized to operate the sewage disposal system on March 14, 1997. The permit indicated that "[a]pproval is for upgrade/repair purposes only. No increase to daily sewage flow above original approval for 1200 IG is permitted with this permit."

By letter dated April 12, 2001, Mr. West wrote to the South Fraser Health Region (now the Fraser Health Authority) regarding Chevron's intention to build a fast food restaurant on the Property. Chevron planned to tear down the existing station and replace it with a new 10-hose (5 double-hosed pumps) service station, convenience store and White Spot restaurant. The White Spot would have seating for about 20 people, with about 3 counter seats, 4 tables inside and another 2-3 tables outside.

The new station would utilize the existing on-site sewage disposal system. Chevron proposed to upgrade the sewage disposal system to accommodate the development. Mr. West described the existing sewage disposal system and the proposed changes.

> Our client wishes to rebuild the premises to match the one recently completed at 232nd and #1 Highway in Langley. As discussed, the present system is on a S.T.P. rated to 4000 I.G.P.D. The system consists of a balancing tank with pumped effluent via a timer to evenly feed the Klargester disk unit, which is then followed by a pump chamber to the field. The present flow is from the staff toilet, two clean up sinks and the public washroom. In the rebuild we will separate the flow from the toilets and clean up sinks and it will continue as before. The kitchen waste flow will pass through a Thermaco grease interceptor and then to Bio Microbios Hi-Strength waste unit. This treated waste will then discharge through an effluent filter to the balancing tank and from there through the S.T.P. We will be designing the Hi-Strength S.T.P. (H.S.) to

> produce a BOD of 300 mg/L and T.S.S. and grease/oils to meet or exceed domestic sewage.

On May 16, 2001, Nick Potter, Deputy Chief Public Health Inspector of the South Fraser Health Region, replied to Chevron's letter concerning the addition of a fast food restaurant on the Property. He indicated that "[i]f a fast food outlet was proposed, the use of a package treatment plant would be in contravention with Schedule 3, Section 1." He further indicated that the maintenance portion of the proposal would require local government approval.

On July 4, 2001, Chevron met with representatives of the Corporation of Delta ("Delta") with respect to obtaining maintenance approval. By letter dated July 13, 2001, Delta indicated that "under current bylaws and procedures it would not normally provide the South Fraser Health Region with assurances for the maintenance portion of a sanitary sewer system certificate issued by them…Any approval of this nature could only be done by Council."

On July 23, 2001, on behalf of Chevron, West and Associates applied for a repair of the sewage disposal system on the Property.

On August 17, 2001, a health inspector inspected the sewage disposal system on the Property in relation to the repair application submitted by West and Associates. The health inspector conducted a dye test and discovered sewage leaching from the system into an adjoining ditch. He ordered that Chevron shut down the washrooms and the service station until the problem was corrected.

On August 20, 2001, Mr. West inspected the sewage disposal system on the Property. His inspection revealed a flow of clear water into the balancing tank. He found that discharge from an ice and slush machine had been incorrectly plumbed into the sewage disposal system at a rate of about 700-800 IGPD. A plumber attended the site and re-routed the flow of clear water into the storm drain. At the same time, Mr. West discovered that the lid to the distribution box was not completely sealed and the distribution box was filled with soil so the flow was only exiting out the most southerly run adjacent to the highway. Mr. West sent a letter to the South Fraser Health Region in which he proposed to vacuum out all the runs, to confirm that all runs are clean and to monitor the system on a daily basis to ensure that there is no further discharge into the ditch.

By letter dated August 24, 2001, the required work on the system was approved, but the proposed expansion was put on hold until such time as the health risk was corrected.

Based on these observations, Mr. West requested that the South Fraser Health Region proceed with the application to repair the system.

On February 6, 2002, the Respondent rejected the application to upgrade the sewage disposal system on the Property. The Respondent gave the following reasons for rejecting the application:

- The history of the existing on-site sewage disposal system has been a concern for many years. The latest malfunction being addressed on August 23, 2001.

- Your estimation of proposed effluent flows of 1000-1200 IGPD from this type of operation is questionable.

- The conditions of permit issued on March 9, 1989 limited what is allowed at this location.

On February 14, 2002, Chevron appealed the Respondent's decision to the Board. Chevron appealed on the following grounds:

- There is no evidence of a current malfunction and no history of the same.

- Records from similar operations can support the flows.

- The previous Permit conditions have been superseded by current technology.

On March 11, 2002, Chevron added that flow figures for the period of November 29, 2002 to March 7, 2002 show 13.9 hours of pump use, with an average daily flow of 613 gallons.

The Respondent requests that the appeal be dismissed.

RELEVANT LEGISLATION

The *Sewage Disposal Regulation*, B.C. Reg. 411/85 (the "*Regulation*") sets out the requirements relating to the issuance of a permit to repair or alter sewage disposal systems.

The Appellant submits that the permit application is for the alteration of an existing system that was constructed prior to 1985. Therefore, it argues that the application should be considered under the "grandfathering" provision, section 7(2) of the *Regulation*, which provides as follows:

Alternate methods

7 (2) Where a sewage disposal system, constructed or installed prior to December 20, 1985 is **in need of repair or alteration** *and* **the appropriate work cannot reasonably be effected in accordance with this regulation**, the medical health officer or public health inspector may issue a permit to repair or alter under section 3 if the sewage disposal system, when repaired or altered in accordance with the conditions contained in the permit, will not constitute a health hazard.

[emphasis added]

For all other permit applications, the following sections of the *Regulation* are relevant:

Permits to construct systems

3 (1) No person shall construct, install, alter or repair a sewage disposal system or cause it to be constructed, installed, altered or repaired unless he holds a permit issued under this section or section 3.01.

...

(3) No permit shall be issued under this section

(a) in the case of construction or installation, until site investigation tests set out in or required by Schedule 1 have been carried out to the satisfaction of the medical health officer or public health inspector, and either of them is satisfied that, having regard to the provisions of that schedule, the construction, installation and ultimate use of the system will not contravene the Act or this regulation…

...

Standards for systems

6 Subject to section 7, no sewage disposal system constructed after the date of this regulation which involves the use of a septic tank or a package treatment plant is permitted unless the system conforms with the standards of construction, capacity, design, installation, location, absorption, operation and use set out

...

(b) for conventional package treatment plant systems, in Schedule 3, and

...

Alternate methods

7 (1) Where a medical health officer or public health inspector is satisfied that it is impossible for a person to comply with

...

(b) in the case of a conventional package treatment plant system, sections 11, 12 or 18 of Schedule 3,

but that the person can comply with all other provisions of the appropriate schedule, he may issue a permit to construct under section 3, containing conditions that he considers appropriate to meet the omitted standards having regard to safeguarding public health.

One of the Respondent's reasons for denying the permit application is that the Appellant's estimated effluent flows from the proposed facility (1000-1200 IGPD) is "questionable."

Section 5 of Schedule 3 sets out the estimate of flows. It states:

CONVENTIONAL PACKAGE TREATMENT PLANT SYSTEMS

...

5 The treatment capacity of a package treatment plant serving a facility ... shall not be less than the estimated sewage flow set out in Appendix 1 of Schedule 2.

Appendix 1 of Schedule 2 provides as follows:

ESTIMATED MINIMUM DAILY SEWAGE FLOWS IN LITRES [IMPERIAL GALLONS]

Type of facility	**Estimated Minimum Daily Sewage**
...	
Restaurants, dining rooms, dining lounges	97 per m^2 of dining area [2 per sq. ft. of floor area]
...	
Service stations	568 per single hose pump [125] 1136 per double hose pump [250]
...	

NOTE:

...

(2) The estimated daily sewage flows for facilities not mentioned in this table may be determined by the medical health officer or public health inspector.

(3) The above table gives minimum estimated daily sewage flows. The medical health officer of public health inspector may increase these estimated flows if circumstances warrant this in any specific application.

ISSUES

The Panel will address the issues raised in this appeal as follows:

1. Whether the proposed sewage disposal system falls under section 7(2) of the *Regulation*.

2. Whether the proposed sewage disposal system will constitute a health hazard.

DISCUSSION AND ANALYSIS

1. Whether the proposed sewage disposal system falls under section 7(2) of the *Regulation*.

As stated above, Chevron submits that the permit application is for the alteration of an existing system that was constructed prior to 1985. Therefore, it is Chevron's position that the application should be considered under section 7(2) of the *Regulation*.

Section 7(2) of the *Regulation* provides broad discretion to approve work to a sewage disposal system built before December 20, 1985 that is "in need of repair or alteration" and "the work cannot reasonably be effected in accordance with this regulation." Section 7(2) is subject to the condition that the system will not constitute a health hazard.

The Respondent submits that the application for the sewage disposal permit should be considered as a *new* application under the *Regulation*. He submits that the proposed system is not an alteration and therefore section 7(2) of the *Regulation* does not apply.

In this case, the existing on-site sewage disposal system consists of a balancing tank/pump chamber, a Klargester (package treatment plant), a distribution box and a gravity fed built-up disposal field encompassing the entire grassed area on the south side of the Property. There is no evidence that the existing system is not currently functioning in a safe manner for the existing operation and facility, i.e., it is not in "need of repair." What the Appellant wants to do is to change the facility and add an additional business, which requires an alteration of the system to service the new operational needs.

In a decision by this Board in *Frank and Maureen Huber* v. *Environmental Health Officer* (Appeal No. 00-HEA-033, November 28, 2000) (unreported), section 7(2) was also at issue. In that case, there was an on-site sewage disposal system with a conventional disposal field that had been in use on the property from 1980 until 1993. In 1993, a drainage field in a raised mound was installed in a different location on the property to replace a failing field. The house burned down sometime in 1995. The permit holder in that case purchased the property in 1997 and, in 1999, applied for a permit for a sewage system on the property to service a new four-bedroom house that they intended to build. In that case, the Environmental Health Officer issued a permit under section 7(2) of the *Regulation*. This decision was appealed by a neighbouring lot owner on the basis that the system did not properly fall under section 7(2) and had insufficient safeguards to protect the public health.

The Board found that the existing system was "in need of repair" in order to be brought back into service for a new house. As the mounded field had not been used or maintained since 1995, the Board accepted that portions of it needed to be repaired or re-built. However, in the present case, the existing system is not being sought to service the same type of operation. It is sought to expand Chevron's operations and to service a completely new one – a restaurant. The Panel finds

that this is not the type of situation that this grandfathering clause is intended to cover.

However, even if the Panel is not correct in its conclusion, the ultimate test under section 7(2) is whether the proposed repair or alteration would constitute a health hazard. Although there was some discussion about the proper characterization of the system, the Panel is of the view that a decision in not necessary in this regard. The "health hazard" test under section 7(2) is, in essence, the same test that must be applied to any sewage disposal system being considered for a permit under the *Health Act* (section 25) and the *Regulation* (see sections 3(3)(a) and 7(1)). Accordingly, the Panel will proceed to consider the next issue.

2. Whether the proposed sewage disposal system will protect the public health.

The Respondent's main reasons for rejecting the application are as follows:

- The history of the existing on-site sewage disposal system has been a concern for many years. The latest malfunction being addressed on August 23, 2001.

- Chevron's estimation of proposed effluent flows of 1000-1200 IGPD from this type of operation is questionable and the conditions of permit issued on March 9, 1989, limit the allowable flow at this location.

1. History of Malfunctions

The Respondent submits that the existing on-site sewage disposal system has been a concern for many years and has required repairs or upgrades throughout the years. The latest malfunction occurred on August 17, 2001, as a result of overloading by the slush machine and icemaker. The repair to rectify the latest malfunction consisted of re-routing plumbing fixtures and flushing the field laterals. The Respondent considers this type of repair to be a temporary fix because no subsurface soil remediation work was conducted. As a result, the Respondent submits that it is only a matter of time before the system malfunctions again and sewage effluent makes its way back to the surface of the land.

The Respondent notes that the existing lot size and available receiving area for on-site sewage disposal is very limited. Further, the natural ground conditions of the area denote medium to moderately fine textured deltaic deposits with poor drainage and high ground water conditions. Given all of these factors, the Respondent submits that the life span of the existing system is questionable and that it poses a risk to the public health because of its potential for another breakout.

Chevron submits that there is no evidence that the existing system is malfunctioning or that the system has a history of malfunctions. It also states that it is responsible for regular maintenance of the system.

Chevron submits that in consideration of the permit application for the White Spot, health officials did an on-site inspection of the sewage disposal system on August

17, 2001, and discovered sewage leaching from the septic field into an adjoining ditch. That problem was corrected and Chevron submits that it has not experienced any problems with the system since that time.

Chevron notes that on December 17, 2001, after 4 months of monitoring the system, the system was functioning properly, with no effluent breakout. This is confirmed in a letter dated December 17, 2001 from Mr. West to the South Fraser Health Region. In that letter, Mr. West advises that continuous monitoring of the site since August 2001 "has shown no breakout of the system."

The Panel finds that the conditions on the Property are less than ideal for on-site sewage disposal. The past history of failures and repairs to the system highlight some of the limitations of the Property for on-site sewage disposal. The Panel accepts the evidence of Mr. West that the system is currently functioning properly and that no breakouts have occurred since August 2001. However, the issue before the Panel is whether the permit application will adequately safeguard the public health. The permit application involves a change in the type of effluent going to the systems as well as the load on the system. The Panel accepts the evidence of the Respondent that an increase in effluent to the system beyond what is currently authorized may result in overloading and breakout. The Panel must therefore determine how much effluent the system can handle while safeguarding the public health and whether the permit application fits within those parameters.

2. Questionable Estimate of Effluent Flows

Chevron notes that the current sewage disposal system has been operating on the Property since March of 1997. Pacific Wastewater Ltd. has serviced the system and records have been maintained, including flow data.

Chevron argues that even with the additional waste from the White Spot restaurant, the system will operate under the currently permitted 1,200 IGPD limit. Chevron submits that the proposed upgrade/addition will result in another 150 – 250 IGPD from the kitchen and another 200 - 300 IGPD from the additional customers. It maintains that with the proposed additions, the system will protect the public health.

In support of its position, Chevron notes that although the service station will be open 24-hours/day, the washrooms will only be open from 6 am to midnight. With shorter washroom hours, the total flow to the system will be reduced. Chevron estimated that 8 to 10% of its business is after midnight.

Chevron also states that between 1997 and 2000, flows from the existing station averaged between 900 and 1,200 IGPD. However, after 2000, elevated flows were reported. Chevron submits that the elevated flows were the result of clear water entering the system from the slush machine and icemaker. However, since the clear water was diverted from the system to the storm drain, flow figures have declined. In Mr. West's December 17, 2001 letter advising the South Fraser Health Region of the continuous monitoring results, he states:

- Readings of the hour meter show that prior to August 2001 the average daily flow was 1,000 to 1,800 IGPD. Since the fresh water flows have been diverted to storm drain, the average has dropped 700-800 IGPD.

- Figures for the period of September 6, 2001 to November 29, 2001 show 12 hours of pump use. The pump discharges 90 US GPM for a total of 64,800 gallons in 85 days. This gives an average of 635 IGPD. This is one half of the permitted volume. (Chevron advised that flow figures for the period of November 29, 2001 to March 7, 2002 show an average daily flow of 613 IGPD.)

Chevron also submits that its flow estimations are supported by figures from an almost identical Chevron station with a White Spot restaurant located at 23182-72nd Avenue, Langley, B.C. Chevron notes that the proposed station on the Property is modelled after the Langley station, and that the 2 stations are almost identical. Chevron notes that the Langley station has 12 hoses whereas the proposed station on the Property will have only 10 hoses. Chevron also indicated that the proposed station had similar flow figures to the Langley station prior to the addition of the White Spot at the Langley station. After the addition of the White Spot at the Langley station, that station experienced average flows of below 1000 IGPD.

The Respondent submits that the conditions of the permit issued on March 9, 1989, limit future changes to the system. One condition of the permit is that "…no increase in sewage effluent volume to this sewage disposal system is to occur."

The Respondent submits that the amount of effluent from Chevron's proposed operation would exceed the 1,200 IGPD allowable limit for the system on the Property established in its existing permit. He testified that any increase in wastewater from the Property would increase the likelihood that sewage effluent would breakout of the existing sewage disposal system.

The Respondent also refers to Appendix 1 of Schedule 2 of the *Regulation, which* provides estimated *minimum* daily sewage flows for different types of facilities. The Respondent submits that the figures in Appendix 1 are regulatory minimums, which can be increased at his discretion. Estimated flows from a service station with a double hose pump is 250 IG per pump and 2 IG per square foot of dining area for a restaurant. The Respondent indicated that Chevron is proposing to build a 10 hose station (5 double hosed pumps) and to have seating for 20 customers at the White Spot. The Respondent notes that Chevron failed to provide information on the breakdown of flows by the number of seats, the number of workers, the number of gas pumps, and the square footage of the building. However, based on the regulatory minimums contained in Appendix 1, the Respondent is of the view that the proposed upgrade exceeds the 1,200 IGPD allowed under Chevron's permit. He calculated the flow from the upgrades as follows:

5 double hosed pumps * 250 IG/ pump = 1250 IGPD

20 seat restaurant * 24 IG (12^2)/ seat = 480 IGPD

Therefore, the estimated *minimum* daily flow from the service station and the restaurant is 1,730 IGPD. The Respondent notes that Appendix 1 does not contain an estimated minimum for the convenience store, but the presence of the convenience store would increase the estimated minimum daily flow.

Regarding the comparison with the Langley station, the Respondent advised that flow readings taken from the Langley station by Chevron, and by the Fraser Health Authority, are unreliable. He states that the waste flow readings from this station ranged from 1,027 IGPD to 1,870 IGPD. However, a subsequent inspection of the Langley station by health officials on June 7, 2002, revealed the waste meter to be malfunctioning. The Respondent submits that the waste flows at this station may actually be greater than the waste flows recorded by the malfunctioning meter.

In the Respondent's view, given the previous failures and the difficult conditions on the site, the proposed facility and upgrades will likely result in a breakout and will constitute a health hazard.

The Panel finds that the proposed development will increase the sewage flows on the Property because of additional waste from the White Spot kitchen, the additional staff and the additional customer load on the washroom facilities. The Panel also notes that there is a tourist information booth facility at this site. The Panel finds that the estimated sewage flows are well over 1,700 IGPD for the service station, the convenience store, and the restaurant. The 1989 permit issued to Chevron limits the daily flows from the Property to 1,200 IGPD and specifically stated that "no increase in sewage effluent volume to this sewage disposal system is to occur." The Panel finds that the flows from the proposed development will exceed the 1989 permit conditions. The Panel finds that it does not have jurisdiction to vary a condition of a permit that was issued in 1989 and that is not the subject of this appeal.

Further, it is reasonable to believe that exceeding that permitted amount is likely to create a risk to public health. In Mr. West's 1986 report, issued after the first malfunction, he notes that the site has "the serious constraints *of little or no natural porous soil, a high water table and a limited area for sewage absorption* before the effluent passes into the adjacent ditch." He further states "It *must be stressed that no on-site system will be completely effective* due to the constraints noted but the combination of treatment and disbursement in a mound that maximizes the area available should provide you with the best system." [emphasis added]

In addition, the Respondent advised that after the repair of the absorption field in 1986, the field had a 15-minute percolation rate. He reasons that since 1986, the material in the field would have compacted and the percolation rate would have increased.

Despite the new technologies and the additional safeguards, the proposed system is still relying on in ground treatment for what the Panel finds to be increased flows. The Panel agrees with the Respondent that any increase in effluent above 1,200 IGPD will pose an unacceptable risk to the public health.

The Panel also finds that any increase (over 1,200 IGPD) in sewage flow to the Property would increase the likelihood of overloading and breakout.

DECISION

In making this decision, the Panel of the Environmental Appeal Board has considered all the relevant evidence before it, whether or not specifically reiterated here.

The Panel concludes that, for all the reasons set out above, the existing sewage disposal system when altered according to the Application may constitute a health hazard.

The appeal is dismissed.

Alan Andison, Panel Chair
Environmental Appeal Board

September 25, 2002