

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

MACKENZIE VALLEY LAND
AND WATER BOARD

PUBLIC HEARING SESSION FOR
TOWN OF FORT SMITH
TYPE A WATER LICENCE RENEWAL
MV2011L3-001

Panel Members:

Chairperson	Willard Hagen
Member	Patrick Laroque
Member	Floyd Adlem
Member	Keyna Nowegian

HELD AT:

Fort Smith, NT
July 20th, 2011

1 APPEARANCES

2 Kathy Racher) MVLWB staff
3 Zabey Nevitt)
4 Angela Love)
5 John Donihee) Board Counsel
6 Lynn Boecher (via phone))
7 Rebecca Chouinard (via phone))
8
9 Alison Humphries (via phone)) Golder Associates
10 J.P. Bechtold (via phone)) Golder Associates
11
12 Jean Soucy) Town of Fort Smith
13 Lindsay McIntyre)
14 Michael Steed)
15 Brian Geddes (via phone))
16 Mayor Jane Hobart)
17
18 Marie Adams) AANDC
19 Jeanne Arsenault)
20
21 Sarah-Lacey McMillan) Environment Canada
22 Mary Kelly)
23
24 Diep Duong) ENR
25 Todd Paget)

1	TABLE OF CONTENTS	
2	Opening Remarks by Chair	4
3		
4	Presentation Town of Fort Smith	12
5	Question Period	40
6		
7	Presentation by Board's Independent Experts:	
8	Golder Associates Ltd.	68
9	Question Period	73
10		
11	Presentation by GNWT-ENR	99
12	Question Period	114
13		
14	Presentation by Environment Canada	148
15	Question Period	162
16		
17	Presentation by AANDC	179
18	Question Period	194
19		
20	Closing comments by GNWT-ENR	201
21	Closing comments by Environment Canada	203
22	Closing comments by AANDC	204
23	Closing comments by Town of Fort Smith	205
24	Closing Remarks by the Chair	208
25	Certificate of Transcript	213

1 --- Upon commencing at 9:32 a.m.

2

3 THE CHAIRPERSON: Okay, good morning to
4 everyone. It's great being in your beautiful Town of Fort
5 Smith. We will begin with an opening prayer, and Keyna,
6 if you could lead us in that it would be much appreciated.

7

8 (OPENING PRAYER)

9

10 THE CHAIRPERSON: Good morning again. My
11 name is Willard -- Willard Hagen, and I'm the chairman of
12 the Mackenzie Valley Land and Water Board. The Mackenzie
13 Valley Land and Water Board was established under Part IV
14 of the Mackenzie Valley Resource Management Act in March
15 of 2000.

16 We exercise authority over land use
17 permitting and water licensing in the Mackenzie Valley
18 under the MVRMA and the Northwest Territories Waters Act,
19 respectively.

20 The panel of the Mackenzie Valley Land and
21 Water Board has been established in accordance with
22 Section 103 of the MVRMA, and over the next two (2) days
23 the Mackenzie Valley Land and Water Board will conduct a
24 hearing into an Application filed for a Type A water
25 licence as filed by the Town of Fort Smith.

1 This hearing has been constituted under
2 paragraph 21(2) (a) of the NWT Waters Act, and under
3 Section 24 of the Mackenzie Valley Resource Management
4 Act. The Application for the water licence was deemed
5 complete on April 28th, 2011. The Application and
6 supporting material were then circulated to reviewers for
7 comment.

8 Board staff held a technical session in
9 Yellowknife on June 15, 2011. The parties were instructed
10 to file their hearing submissions on July 4th, 2011, but,
11 due to some last-minute information received by the Board
12 from the Town of Fort Smith, this date was extended until
13 July 6th, 2011.

14 Interventions were received from the North
15 Slave Metis Alliance, Environment Canada, Aboriginal
16 Affairs and Northern Development Canada, and the
17 Government of the Northwest Territories Environment and
18 Natural Resources.

19 The Town of Fort Smith responded to these
20 interventions on July 13th -- July 2011. All parties were
21 required to submit their hearing presentations by July
22 15th of 2011. A Board staff also held a pre-hearing
23 conference on July 13th, 2011. The pre-hearing conference
24 identified the procedure to be followed at this hearing.

25 This hearing was advertised in accordance

1 with subsection 23(2) of the NWT's Water -- Waters Act. A
2 public notice was listed in the north -- or in the Slave
3 River Journal on May 31st, 2011, on News North on June
4 6th, 2011. Radio announcements were also made on CBC and
5 CKLB radio, beginning the week of July 11th, 2011. There
6 were posters placed in various locations around the Town
7 of Fort Smith advertising this hearing as well.

8 Today, we will sit from 9:30 a.m. to five
9 p.m. If necessary, we will begin again tomorrow morning
10 at 9:00 a.m. and sit until the hearing is complete. There
11 will, of course, be appropriate breaks for coffee and for
12 a lunch.

13 The Board asks for your cooperation in
14 being prepared to make your presentations in the order set
15 out in the agenda, to be organized and focussed in the
16 questioning of other parties.

17 There are a few housekeeping items to
18 address. The washrooms are located to the back of the --
19 the hall, and there's two (2) emergency exits, you can
20 see, over left and right of you. As mentioned -- oh,
21 yeah, as also a reminder, put your cell phones on vibrate
22 or -- or turn them off; would be appreciated.

23 The hearing has been scheduled for two (2)
24 days. If the proceedings are concluded today, we will
25 adjourn the hearing and not reconvene tomorrow. The order

1 of proceedings will be as follows. The Board -- the Board
2 will, first of all, hear from the Town of Fort Smith
3 regarding their application before the Board. Once
4 they've completed their presentation, the order of
5 questions will be as follows: registered intervenors,
6 registered speakers, the general public, and then Board
7 con -- consultants, Board staff or legal counsel, and then
8 the Board members will have the last opportunity to ask
9 questions.

10 For the purpose of taking questions from
11 the public, there is a microphone that will be brought to
12 you for -- for your questions. If you wish to speak,
13 please stand up, identify yourself, and the microphone
14 will be brought to you.

15 When the questions that are directed at the
16 applicant are completed, we will proceed, as in the
17 agenda, with a presentation from the Board's independent
18 expert, Golder Associates Ltd., on their technical
19 memorandum regarding the development of effluent quality
20 criteria for the Town of Fort Smith, and I believe they're
21 going to be on the conference call, correct?

22 We will then proceed with presentations
23 from the registered intervenors, which are the Government
24 of the Northwest Territories Environment and Natural
25 Resources, Environment Canada, Aboriginal Affairs and

1 Northern Development Canada, and the North Slave Metis
2 Alliance, who I -- who I believe are -- are not going to
3 be here, so nothing has changed there.

4 There will be an opportunity for questions
5 after each presentation, and the order for these questions
6 will be as previously set out: registered Intervenor,
7 registered speakers, the general public, Board consultants
8 or Board staff or counsel, and, finally, Board members.
9 Those members of the public who have registered here today
10 will also be given an opportunity to address the Board
11 after all the registered Intervenor have done so.

12 The Board wants this hearing to be as
13 informal as possible. However, as a quasi-judicial body,
14 we are bound by the rules of procedural fairness, and, as
15 the Chair, I am responsible for the conduct of the
16 hearing, and I would ask that all comments and any
17 requests be addressed through the Chair. And, believe me,
18 I will remind everybody of that as the day goes on.

19 Once again, after everyone has the
20 opportunity to speak, the registered Intervenor and then
21 the applicant will have an opportunity to present their
22 closing comments.

23 I would like to take a moment then to
24 introduce the members of our Board and our staff. Floyd,
25 perhaps we could start with yourself.

1 proceedings are being recorded and transcribed and
2 therefore I'd ask when you speak please precede your
3 presentation with your name, who you represent. And you
4 will be reminded of this also because our court reporter
5 Ms. Wendy Warnock will definitely remind you if this isn't
6 done.

7 So if you have any questions about the
8 transcripts you can please direct them to Wendy at one of
9 the breaks and they will be available on our web --
10 website at a later date.

11 I'd also like to be -- remind you that we
12 do have the interpreters at these proceedings and -- and
13 it is all being interpreted. So when speaking out,
14 presenting today, if you could please pace yourself
15 accordingly.

16 Before we begin with the presentation by
17 the applicant I would like to ask that the counsel or
18 spokesperson for the Town of Fort Smith identify
19 themselves for the record and provide us with your opening
20 statements.

21 Thank you.

22 MR. JEAN SOUCY: Thank you, Mr. Chairman.
23 On behalf of the Town I'd like to introduce my -- our
24 panel: Michael Steed from AECOM is our technical advisor;
25 Lindsay McIntyre, who is the Director of Municipal

1 Services; and myself, Jean Soucy, is Director of Water
2 Works.

3 So we'll be providing our presentation this
4 morning. A bit of an overview of what we experienced
5 yesterday with the tour as well as some background
6 information and future plans.

7 THE CHAIRPERSON: Great. Thank you then.
8 And for the Government of the Northwest Territories, ENR.

9 MR. TODD PAGET: My name is Todd Paget,
10 Government of the Northwest Territories, ENR.

11 We are also, Mr. Chair, going to have Diep
12 Duong with us in a short while as well. And at that time
13 we're just here to help out the best we can and provide
14 the Board staff and the Town and anybody else interested
15 with the best information we can to help facilitate the
16 proceedings.

17 Thank you very much for having us.

18 THE CHAIRPERSON: Great. Thank you,
19 Todd.

20 And I understand Environment Canada,
21 Aboriginal Affairs and Northern Development are going to
22 be late, that's the latest we heard. Their charter is
23 arriving late, but we didn't feel that we should be
24 holding up the process, it's been advertized for a good
25 month or longer.

1 So we will just wait and -- I mean, we'll
2 deal with them when -- when they get here. And I'd like
3 to -- the Board's independent experts we've already
4 mentioned they'll -- their going to be on the phone at
5 this -- probably this afternoon, or is it this morning?

6 MR. J.P. BECHTOLD: Mr. Chairman, both
7 Alison Humphries and myself, J.P. Bechtold are here on the
8 phone.

9 DR. KATHY RACHER: Could you repeat that,
10 J.P.?

11 MR. J.P. BECHTOLD: Oh, I'm sorry. I just
12 wanted to say, Mr. Chairman, that both Alison Humphries
13 and myself, J.P. Bechtold, are on the phone.

14 THE CHAIRPERSON: Okay. Great. Thank you
15 for identifying yourself then. And, with that, then we'll
16 turn it over to the applicant, the Town of Fort Smith, for
17 their presentation, so. You got to have the mic. And,
18 again, just -- sorry, if you'd just give us your name and
19 who you represent for the record. Thanks.

20

21 (BRIEF PAUSE)

22

23 PRESENTATION BY THE TOWN OF FORT SMITH:

24 MR. JEAN SOUCY: So I'll repeat that. So,
25 I guess. My name is Jean Soucy. I'm the director of

1 Water Works and I'm representing the Town of Fort Smith.
2 I'll be providing a -- our presentation is predominantly
3 similar to what we went through yesterday with the tour.
4 It'll -- it'll provide some background information of
5 what's happened in the past, what we plan to do in the
6 future, and our current infrastructure and how it works.

7 So I'll go through -- through somewhat of a
8 detailed presentation on certain sections of it for the --
9 for some of you who weren't part of the tour yesterday.
10 So we'll begin.

11

12 (BRIEF PAUSE)

13

14 MR. JEAN SOUCY: The existing water and
15 wastewater infrastructure is -- there's an overview map
16 here of all our infrastructure locations. So starting
17 with our intake pump houses, this is -- our water is taken
18 from the Slave River, obviously, and our intake pump house
19 is constructed on the shore of the -- of the river and
20 it's embedded into the rock bed, so it's a fairly
21 substantial structure.

22 As a ma -- a matter of fact, a couple years
23 ago we had it evaluated, and they -- their comments were
24 that that building's not going anywhere anytime soon.
25 It'll outlive most of us. It's a concrete structure,

1 fairly substantial thickness of -- of concrete, which is
2 obviously protected against ice break-up and other -- all
3 their -- other vulnerable situations that may appear.

4 Subsequently, the intake continuous to the
5 water treatment plant, which is right here, the water
6 treatment plant was built in 1993. I'll go into more
7 details later on with that.

8 And from that point on, we have our pumping
9 station, which is a water tower reservoir located in the
10 centre of Town. The water tower reservoir, obviously the
11 water tower provides our -- our pressure system for the
12 Town of Fort Smith as well as -- as a reservoir for -- for
13 backup.

14 When we go to the sewage lagoon and
15 discharge area, so the north -- northwest side of the
16 Town, and it discharges into the Slave River further down.
17 And we'll go into more details with that later on as well.

18 Last but not least is a solid landfill site
19 which is on the west side of the Town of Fort Smith pa --
20 just bordering Bell Rock before Bell -- Bell Rock and
21 between the airport.

22 So our -- our water supply line, which is
23 the intake, as I mentioned, is on the -- in the river --
24 in the bedrock of the river, actually. And because of the
25 -- some of the history that we -- that we dealt with in --

1 in 2005 with the landslide and -- and background
2 information that we had before, or previous landslide
3 scenarios that we had before, a couple years ago we did
4 some remedial work to prevent any -- any further landslide
5 or potential landslide within the area by slope stability.
6 And I'll talk to that again as we go through a little bit
7 as what we've done in the past.

8 Here's a picture of our intake. The intake
9 line itself was installed in 1991, and it was sloped
10 considerably fairly -- fairly level, although the ground
11 keeps moving. The ground never stops moving around the
12 intake or anywhere around the -- the landslide area.

13 I was able to point out a few -- a few
14 places yesterday where these -- these joints are sitting
15 on these sleepers, and these sleepers are actually
16 adjusted annually about 6 inches backwards because the
17 ground actually moves -- the ground moves 6 inches every
18 year. So we adjust these sleepers every year, and it --
19 it's -- it moves about 5 to 6 inches on an -- on an annual
20 basis.

21 Sorry. So the location of the water
22 treatment plant, as I said before, is somewhat in the
23 centre of Town. Obviously there's a reason for that.
24 There was -- well, there's two (2) reasons. The reason
25 the -- the water treatment plant was located as -- where

1 it is, it was further away from the landslide for one (1).

2 Secondly, Fort Smith doesn't really have a
3 whole lot of property to put a -- a large structure as
4 such. And so when it was built in 1993 we had two (2)
5 locations. One (1) here and another location, and this
6 was the -- made the most sense because of the settling
7 ponds, which I talked to yesterday.

8 The settling ponds are utilized during the
9 summer months to combat or to treat the high turbidity
10 scenarios that we have to deal with. Obviously, if you've
11 seen the river yesterday, or anytime recently, our water
12 conditions are pretty extreme so we have to find ways to -
13 - to treat that water.

14 The settling ponds are easily -- using the
15 settling ponds so we can easily attain those -- that
16 treatment process. Without the settling ponds, we
17 wouldn't be able to. So we need a substantial area to --
18 to encompass the water treatment facility.

19 Our water distribution system. This is
20 just an overview of the actual schematic of what -- what
21 takes place, but we have a -- our water treatment
22 facility. Again, we have our intake pump house which
23 encompasses three (3) pumps. Furthermore, there's the
24 pond system which encompasses its own set of pumps, and
25 it's all connected to the water treatment plant from that

1 point on.

2 That goes into our -- overflows into the
3 elevated water tower into the storage tank, which is a
4 reservoir. From that point on, it is either pumped or
5 distributed via the high level water tower. The --
6 predominantly the water tower is our pressure system.
7 Now, we could -- we could increase that pressure with the
8 pumping system that we do have within the -- within the --
9 the pump house.

10 As well, our sewage collection system
11 consists of five (5) lift stations throughout the Town.
12 Fort Smith is fairly level. There's not much -- not much
13 elevation within Fort Smith. So in order to -- to get
14 gradual flow in certain sections we do have to include
15 lift stations in numerous places.

16 The main lift station encompasses mostly --
17 80 percent of the sewage that's produced by the Town of
18 Fort Smith. By saying that, I -- I mean that the Pelican
19 Rapids -- or the Pelican/Primrose lift station, and the
20 Klondike/Caribou lift station, all go into the main lift
21 station, and directly into the -- into the lagoon system.

22 The Frontier lift station, and the Towering
23 Pines, as well as the airport has its own small version of
24 a lift station. They connect just prior to the lagoon
25 entering -- or the -- the sewage entering the lagoon.

1 They connect in a -- in a manhole there. So essentially
2 80 percent of our sewage comes from the mainland.

3 The existing sewage treatment facility
4 consists of two (2) primary cells and one (1) secondary
5 cell. As the sewage enters, it enters into primary 1,
6 flows to primary 2, and subsequently goes into secondary
7 lagoon for long-term treatment. When I say "long-term," I
8 mean four (4) months detention. Subsequently because of
9 the four (4) month detention, our -- our lagoon design is
10 continuous discharge, which goes back into the Slave
11 River.

12 This picture is an older picture. It
13 doesn't -- it doesn't necessarily show the landslide that
14 we incurred in 2005, which sheared off that intake -- or
15 that discharge line totally. And so we had to do some
16 real quick remedial work in here, but I can speak to that
17 later on in the other -- in the other slides that we have.
18 And there it is.

19 So the sewage disposal, again, this is a
20 picture of the actual project after completion. You can -
21 - you can see the -- the slide that we had here. So this
22 is about 70 metres this way, and it was 400 metres length-
23 wise, so the existing -- the prior discharge line was
24 actually buried underground to about here.

25 I -- I guess they -- they didn't anticipate

1 any landslides, but, to me, that design didn't really fit
2 the -- the environment that it was -- that it was
3 operating within. So, of course, it sheared off that
4 line, and sewage was flowing at full rates when I did get
5 notified there was a landslide.

6 So just a little background here. We
7 isolated the water from the -- our shut-off valve up here,
8 spent a couple of days to get a temporary line into the
9 river, and then were able to -- to continue with the
10 project while we were on a temporary disposal line that we
11 had.

12 So it encompasses a line that's on a --
13 this one is not necessarily on a sleeper. There are
14 sleepers on here, but it has its own protection of any
15 incurring or sloping area and -- which will -- which will
16 occur in time. But it sits on an I-beam frame, which, if
17 there is a large void, a sudden -- a sudden large void,
18 the pipe itself will still remain intact, and so we're
19 able to -- to manage that -- that section of the -- of the
20 area better than prior years.

21 It goes into -- prior to discharging into
22 the river, it goes into this diffuser. It's a rock
23 formation made of up riprap, and as it hits this diffuser,
24 it trickles into the river. We were there yesterday, and
25 it was kind of unfortunate that this picture really

1 doesn't give any -- any relation to what -- to what it is
2 now. So the very top there is all we could see yesterday.
3 The water level is high, very high, compared to last year.
4 Two (2) extremes, right?

5 Our solid waste collection is very simple,
6 similar to probably most municipalities in the
7 Territories, or any other place, for that matter. We have
8 one (1) -- sorry, we have two (2) collection trucks. One
9 (1) is a backup only, but our speci -- or specifically, we
10 pick up solid waste twice a week on average of two (2) --
11 25 cubic yards per truck, and two (2) loads a day -- two
12 (2) loads a day, so twice a week. It's about 100 cubic
13 metres per week is what we collect in the Town of Fort
14 Smith.

15 Our solid waste management, our existing
16 infrastructure consists of our landfill here, and there's
17 a -- there's a lot to it, and I'll speak to that a little
18 bit later with regards to what we've done in the past, but
19 I haven't been here for twenty-five (25) years plus. I
20 remember this landfill has been just that: a place to --
21 to dump garbage. There's a lot more to it now.

22 We have our land farm here at the west berm
23 -- oh, sorry, a land farm here, and then we have the west
24 berm here where we have some asbestos disposal site. Our
25 tire collection is here, although we have an additional

1 tire collection here now, where we're preparing for
2 recycling of the tires, which we've addressed with our
3 recycler.

4 Household garbage is around this area here.
5 There's a ravine at the bottom here that runs on -- on the
6 bottom of the -- of the landfill. The uranium disposal
7 site, which is a collection of -- of contamination that
8 was within the Town of Fort Smith, has been identified
9 here, and is capped and -- and fenced off from the public.
10 It is low-level radioactive material from the old northern
11 route system of prior years.

12 The bulk waste and vehicles and heavy
13 metals are in this section here. We also have some here
14 at this point, some heavier metals, empty tanks and large
15 -- large metal components. Over here, we -- it's not
16 identified in this picture here, but we do have our
17 electronic waste: TVs and computers. White metals are
18 over here, which we've -- currently are in the process of
19 bailing. We bailed about half of it last November and
20 hopefully we'll get that completed this summer.

21 The accomplishments over the past eight (8)
22 years -- I've touched on this a few times, so I'll go a
23 little more details in certain areas. Obviously, I
24 discussed that a little bit. The rehabilitation of the
25 groundwater, water supply -- as I talked about earlier, we

1 basically recognize that the ground will slope, it will
2 want to slide. In order to prevent the actual, physical
3 one (1) shot -- one (1) swoop slide, we identified that
4 many years ago that sloping the area would -- would be --
5 would give us time to -- to react to it. Of course, it
6 would be easier to manage should there be some -- some
7 movement within the area.

8 And we achieved that in 2008. We completed
9 the project where you can see the top of this bank here,
10 basically reduced, and the slope was gradually -- the
11 incline from here to here was greatly reduced, and
12 removing the actual pressure from the top to the bottom.

13 We also replaced a water intake pump. The
14 -- this pump, that we replaced a few years back, was from
15 the original intake structure in 1959. It was a backup
16 pump. It wasn't utilized on a regular basis, so it really
17 didn't have the amount of hours that you would expect from
18 a pump to be that old. Although it was getting old and
19 really there was no place to get any -- any more parts for
20 it. So we replaced it.

21 The intake pumphouse, as I spoke to --
22 alluded to earlier, it was inspected and evaluated within
23 the concrete structure. Obviously that structure is not
24 going anywhere time -- any -- anytime soon; however,
25 there's some mechanical equipment that we have to deal

1 with. There's numerous gates within the structure that
2 are made of metal, obviously, and we utilize the best --
3 these gates for our -- our -- the -- for the best source
4 of water, depending on the levels of the river itself. So
5 these -- these mechanical gates have to be inspected on a
6 regular basis, or every ten (10) years or so, to identify
7 any -- any structural problems.

8 In -- during the past eight (8) years, we
9 had a fair amount of -- of work completed in the water
10 treatment, but before I go on to that, I -- I'd like to
11 say -- to speak on behalf of the twenty (20) year capital
12 plan that we had. As a youngster, I remember this twenty
13 (20) year capital plan that we had identified our
14 infrastructure that needed to be replaced. And I just
15 couldn't see myself being part of this closure of this --
16 of this -- this plan. And I'm proud to say that after
17 twenty (20) years, we're (1) one -- one (1) or two (2)
18 projects away from completing the whole plan as identified
19 by UMA many years ago. And so these are part of that
20 plan.

21 The -- the capacity filter that was added
22 to the water treatment facility was not part of the plan,
23 I'm sorry to say, a was but one (1) of these conditions
24 that the other filters had some corr -- corrosion
25 problems, and this filter, even though it was originally

1 planned for -- for installment when they built the plant
2 in 1993, subsequently due to budget restraints we had to
3 remove it from that project. And of course, when we --
4 when we had to deal with the corrosion scenario in the
5 other two (2) filters, this became a high priority. And
6 so, we corrected it at -- at my guess probably six (6)
7 times more than what the original two (2) filters cost.

8 Having said that, the renovation of the
9 reservoir was part of that twenty (20) year capital plan.
10 Again, a lot of our infrastructure was built all in the
11 two (2) years, 1958 to 1959. So a lot of these -- these -
12 - a lot of our infrastructure was getting quite old and
13 was deteriorating quite rapidly. So this reservoir was --
14 is -- is concrete reservoir and it's 7 metres from the top
15 of this rim, 7 metres below ground -- or 7 metres in total
16 depth. It's all in concrete.

17 So we did some remedial work on the --
18 internally, as well as externally, with some insulation
19 and a new roof, and the vent cap on top is basically
20 exactly that.

21 The other one, which was our water tower,
22 the water tower came into question a few times, whether it
23 was -- it was needed. It's not -- it's not best practice
24 any more to construct water towers because they're so
25 expensive to construct, although I fought quite hard for

1 this one because once it is constructed, it's -- it adds
2 value to our infrastructure with respect to continuous and
3 stable pressure for the community.

4 The only problem was, we couldn't find
5 anybody that would actually repair it at a reasonable
6 cost, and so it took us a few years, and we did find a
7 company out of Saskatchewan that did the -- the project
8 well below what we had originally -- were originally
9 quoted for. And so our water tower should be good for the
10 next twenty (20) years. Obviously, we'll do some
11 inspections in here every five (5) years or so and -- and
12 look for potential corrosion or anything that we could
13 quickly repair, but we should be good for twenty-five (25)
14 years, and our water pressure should be the same for the
15 next twenty-five (25) years.

16 As well, as part of the water treatment
17 facility, in 2003 we upgraded our PLC system, which was an
18 old DOS program that really wasn't operator friendly and
19 didn't have the ability to -- to log -- log a lot of the
20 data that's -- that the water treatment plant processing -
21 - the water treatment facility actually goes through. So,
22 in this new system, we're able to log all the information
23 as it's being operated, and it gives us vital information
24 and good feedback further down the line.

25 Our water distribution consists mainly --

1 well, it's mostly a -- a pipe system. Anywhere within the
2 general downtown and surrounding Fort Smith is all piped
3 water. We have a few sections where some of our water
4 lines have been extended, where the groundwater is higher
5 than -- than 14 feet. All our water mains are
6 approximately 14 feet below ground, fairly -- fairly deep,
7 and we don't have a recir. system or anything like that,
8 so we do have to make sure that we prevent frost or -- or
9 freezing of our water main. So that's why we have a
10 fairly deep system. Fort Smith is fortunate that our
11 ground is mostly sand, so it's much easier to dig than any
12 other place that I know of.

13 So some of our projects were -- this was
14 done a couple of years ago, the extension of the water
15 main extension on Conibear Crescent, which is the street
16 between the two (2) schools and -- and Mount -- Breynat
17 Hall, sorry, which are large buildings, and subsequently,
18 within the -- if there were -- our concern -- most -- our
19 concern was mostly about fire protection at the time.

20 When we have a dead-end line and you have
21 many large buildings around the area, should there be a
22 fire in any one (1) of those buildings, that -- the
23 pressure system at -- at that end would not be sufficient
24 to fight those fires. And so the extension of Conibear
25 was completed to connect to Calder Avenue, providing

1 pressure from both ends, and give -- giving us a complete
2 loop, where we feel much more confident that we can fight
3 any -- any fire within that area.

4 Like, a -- a few years back, three (3)
5 years -- three (3) years ago, as a matter of fact, we
6 incorporated the removal and replacement of our current
7 water metering system. A -- a few of you were at the
8 water plant yesterday, and I have a bit of a -- a bit of a
9 display of the water metering system that Fort Smith has
10 gone through in the last -- since 1958. And it's pretty -
11 - it's pretty impacting when you look at the meters they
12 were -- they were installing back then. They were huge,
13 big models, and now we're down to these little meters
14 which are now wireless. This gives us the option to meter
15 read monthly.

16 We could -- if we had a -- a computer
17 system that could -- we could actually have a computer
18 system that could monitor and read these meters on a daily
19 basis. It's not required for a small town like -- like
20 Fort Smith, but it does give us a lot more -- it frees up
21 a lot of our time by reading meters. We can essentially
22 read all the meters in -- in Fort Smith in about two (2)
23 hours.

24 Hydrant replacement and repair program is
25 ongoing. We've had a fair amount of work last year where

1 we replaced six (6) hydrants, which were quite old. We're
2 continue -- continuing that program. We have another five
3 (5) to do this summer. As well, last year we had all our
4 hydrants -- essentially all our hydrants inspected and
5 repaired, and brought back to -- to their original
6 standards.

7 The actual structure of a hydrant is never
8 a real problem, it's the components within that -- that
9 become corroded, or -- or may have some issues that we can
10 -- that we need to repair every now and then.

11 As I talked about earlier, our summer
12 waterline extensions. Our -- predominantly two (2) -- two
13 (2) or three (3) summer water lines that we've extended in
14 the past are customers that are -- are within the
15 groundwater area, and subsequently they can't get
16 services, water and sewer. So we extend our -- our
17 services to them in the summertime and -- or at least the
18 water to -- to them in the summertime, and again shut it
19 down in the fall.

20 Some of our sewage collection projects are
21 pretty extensive as of late. Last year, we did -- well,
22 last year was the finish of the project, but the year
23 before we actually started this project that we -- doing
24 numerous repairs on our sanitary system.

25 Our -- most of our -- most of our piping,

1 especially in the -- in the sewage collection system, is
2 predominantly asbestos cement pipe, AC pipe, and so a lot
3 of these repairs were converted, of course, to PVC.

4 You can see a picture here of one of the
5 lar -- longest dig that we -- that we had, and you can see
6 where the insulation was -- it might have been okay at the
7 time, but it really doesn't -- it didn't view very well
8 when we did the video inspection prior to -- to digging up
9 the ground.

10 We had a lot of sections on -- on the
11 services where there was some cracking, or there was some
12 visible collection of roots formation, so we addressed
13 every one of those spots that we -- we had recognized in
14 the video inspection that we did a couple, few years back.

15 So the total length of metres was 970
16 metres. It was a fairly large project, one of the largest
17 project in Fort -- projects in Fort Smith, and we had to
18 get this done because, of course, we were waiting to do
19 some -- some paving work the following year, so we had to
20 get these projects done before that.

21 Most recently, we did -- rehabilitated the
22 Towering Pines lift station, which was built in the early
23 '70s. So all the components, electrical, pumps, and air
24 handling equipment has all been replaced, and should be --
25 should suffice us for the next twenty-five (25) years.

1 Accomplishments for the past eight (8)
2 years. For the lagoon system, obviously -- oops, I'm
3 sorry -- the desludging is an ongoing program that we
4 started many years ago where we -- we recognize that
5 there's a fair amount of sludge buildup within primary
6 cell 1 and 2.

7 And so every five (5) to six (6) years --
8 of course I use the five (5) years as a number, but we'll
9 start evaluating these cells based on the incurred amount
10 of settlement and -- and sludge buildup within these.

11 So once that's determined, we actually
12 bring in a company from northern Alberta who actually
13 desludges it, and we have a drying bed just short -- in
14 this area here, and it's desludged as a slurry, and it
15 takes about two (2) to three (3) years to dry up, and once
16 it's dried up we collect it and dispose of it.

17 As well in this frame, we have some
18 comments from our inspection -- regular inspections that
19 we receive. Some of the comments, or most of the comments
20 are pretty generic. I'm -- I'm accustomed to seeing a lot
21 of these comments on a regular basis.

22 The sewage disposal accomplishments. Of
23 course, I talked -- I talked to the -- the issues that we
24 had with the landslide back in 2005. The replacement of
25 the disposal line after the landslide. It was a large

1 project, of course. It was done -- because the landslide
2 occurred in August, by the time we -- we issued the tender
3 we were well into winter as a project, so it was a very
4 challenging project to complete. However, it was done on
5 time and within budget. And it is still, other than some
6 vegetation around the area here, it looks pretty similar
7 to what was originally constructed.

8 I'll have Michael Steed talk to the solid
9 waste management on behalf of Fort Smith.

10 MR. MICHAEL STEED: Good morning, Mr.
11 Chairman. My name is Michael Steed, I'm with AECOM, an
12 engineering firm and I've been retained by the Town of
13 Fort Smith to provide some technical assistance with the
14 groundwater monitoring around the landfill.

15 So as mentioned on there, they installed an
16 electric fence around the inner perimeter of the -- of the
17 landfill to keep out wildlife and -- and people wandering
18 in. They developed a landfill operation and maintenance
19 plan and have also implemented a groundwater monitoring
20 program.

21 And so what's -- that encompasses is they
22 have installed monitoring wells around the landfill, which
23 you can kind of see on the -- on the drawing there as the
24 little yellow dots. So they have some upgradient wells
25 and some downgradient wells to monitor the groundwater

1 quality around the landfill. The -- the wells were
2 installed, some of -- eleven (11) of them were installed
3 in 2001 and four (4) or five (5) more were installed
4 around the land farm in 2002 or 2003.

5 The stratigraphy of the area is described
6 as mostly silty sand. And the groundwater wells have been
7 sampled ever since they were installed in 2001. They
8 began by monitoring twice a year, once in the spring and
9 once in the fall, and have moved to monitoring once a
10 year. And what they monitor for is major ions, dissolved
11 metals, and they've historically tested for BTEXs, total
12 extractable hydrocarbons, total volatile hydrocarbons, and
13 mineral oil and grease.

14 As part of the monitoring program they also
15 have two (2) locations where they monitor surface water.
16 So there's a creek that runs along the northeast corner of
17 the landfill and there are two (2) points along that creek
18 where they monitor. And the surface water has been tested
19 for Ph, conductivity, total suspended solids, faecal
20 coliform, biochemical oxygen demand, total metals,
21 sulfate, and visible oil and grease.

22 And then also on the side you can see
23 there's some more inspection comments, most of them saying
24 that the landfill is being well managed and that
25 everything is being separated and well maintained.

1 MR. JEAN SOUCY: Thank you, Michael. So
2 we -- plans for the next ten (10) years. Obviously our
3 infrastructure is very important to us. And we -- we're
4 always in -- in the planning stages for the next -- for
5 the next ten (10) years or the next twenty (20) years.
6 And I alluded earlier to -- to the twenty (20) year
7 capital plan program that we had. And I hate to say this,
8 but I've been here long enough that I'm starting that
9 cycle over again, so we will be on the -- on the second
10 plan real soon.

11 So I'll touch -- I'll touch on the -- some
12 of the -- some of the items that we have plans -- planned
13 for the next ten (10) years.

14 Our water supply, which is the intake pump
15 house, will require two (2) new pumps, possibly three (3).
16 We need to revisit the need for -- for the -- the one that
17 we changed recently. So these pumps that were installed
18 back in 1989 have -- have come -- have done -- done us
19 well, but they're -- they're approaching their life cycle,
20 so that will be one (1) of our main concern in the next
21 few years.

22 The water treat -- treatment facility will
23 require some electronic software and support system. Our
24 controls and support system is original from 1993. Maybe
25 some of the software has been upgraded, but essentially,

1 I'm sure you're -- you're aware of the electronics after
2 five (5) years tends to be obsolete. For us, we -- we
3 were able to maintain our system with the current
4 electronics -- electronic software and equipment that we
5 have. But it's come to a point where we can't get
6 replacement for that stuff anymore, so we have to evaluate
7 what our needs will be and what we -- what we need to --
8 to do to move forward.

9 As well, most recently, a lot of discussion
10 as part of the sustainable development plan is an
11 alternate heat source for the water treatment facility. I
12 talked about that yesterday a little bit in the tour, that
13 we -- we're -- we're currently heating our water to 5
14 degrees, which is a considerable cost to our water
15 treatment facility. And we're looking for an alternate
16 heat source or an alternate technology that may -- may
17 help us out a little bit here or there. There are a few
18 companies -- or -- or sorry, government buildings that
19 have in -- included in our heating system pellet systems,
20 and they're -- they're quite more -- they're a lot more
21 cost effective once operational.

22 As well, we would like to review this as --
23 as a need -- is there a better way to deal with the way we
24 -- our process? Do we actually need to heat the water?
25 Obviously we have certain areas we have to protect, our

1 water tower and our underground piping, we don't want to
2 stop heating the water and all of the sudden find
3 ourselves in the multimillion dollar infrastructure
4 breakdown.

5 So, we'll -- we'll -- we've already
6 identified or set out an RFP to identify -- or and a plan
7 to identify what our needs will be and are there solutions
8 to -- to our cost of heating our water at the moment.

9 We also have a draft already with the
10 waterworks water treatment facilities and emergency
11 response plan and O&M plan. The emergency response plan
12 is already -- is already in place. It even -- identifies
13 how to respond to water treat -- water treatment
14 emergencies, whether it's low chlorine residual or no
15 chlorine residual. Of course, our experience with
16 landslide scenarios; do we have our equipment ready to --
17 to support a landslide in Fort Smith.

18 So all that is already in a plan. The --
19 the only one that's still in the draft is actually the O&M
20 plan part -- part of the -- the general plan itself.

21 The water distribution. This is the last
22 item out of that twenty (20) year capital plan. It was
23 identified many years ago that the airport and the
24 Towering Pines being the furthest points away from the
25 water tower, that their pressure was considerably lower

1 than anybody else's. As well, being further away from the
2 -- from the water tower itself, they -- their chlorine
3 residual was a lot lower as well. So part of that plan
4 was to include a booster station as well, within that
5 booster station a post-chlorinator to -- to bring the
6 chlorine residual back to what its intent is.

7 Our sewage collection system we'll -- we'll
8 incorporate real soon here this summer. Our frontier lift
9 station re -- rehabilitation. Again, this frontier lift
10 station is the oldest lift station that we have now that
11 hasn't been rehabilitated, and so our equipment is
12 arriving this week, as a matter of fact, and we'll start
13 that project this summer.

14 Furthermore, the main lift station which
15 was renovated in 1990, as well as the Primrose lift
16 station which was renovated in 1989, I think, they'll have
17 to be investigated and determined whether replacement is -
18 - is due within the next five (5) years or so.

19 Our sewage treatment facility. We will be
20 including a sewage management plan, which we do have an
21 O&M plan, but it's very -- it's not very detailed, and so
22 we plan to put one together that would -- that would
23 encompass what we do with the sludge management, and what
24 -- what is the operational maintenance plan for the sewage
25 treatment facility. Obviously a lagoon system doesn't

1 require a whole lot of -- of operational maintenance, but
2 it does require some, so that will be identified and put
3 into a plan for -- for future operations.

4 The plans for the next ten (10) years for
5 the solid waste collection has been discussed with council
6 and administration quite a few times during my -- my short
7 tenure at the Town office, and I'm very impressed with the
8 -- the approach that council has taken with respect to
9 being -- a green council or environmentally friendly
10 council. They -- they have asked me directly to -- to
11 coordinate some kind of a hazardous -- household hazardous
12 waste roundup collection program.

13 And -- and talking with ENR about -- about
14 a month ago, we've put a tentative date together for
15 September as a household hazardous waste roundup plan.
16 And we hope to have -- at least once annually have some
17 kind of a weekend session or -- or a few days where we can
18 -- we can collect a lot of their household's hazardous
19 waste within the community.

20 As well, the Town is definitely interested
21 in -- in pursuing a recycling collection program. Of
22 course, we got blue bins here. I don't know if that will
23 be the colour for them or not, but whatever colour that it
24 becomes. But, yes, our landfill can -- can operate way
25 more efficiently should we have a program like this, and

1 we want to pursue it.

2 Part of our solid waste management plans
3 for the next ten (10) years is to update our current
4 operation and maintenance documentation that we have with
5 our current licence, which will include a lot of these:
6 One (1) of the -- one (1) of the -- one (1) of the
7 recommendations by, I believe, ENR was that we didn't have
8 a closer reclamation plan. You know, I thank them for --
9 for bringing that up to -- to our attention, really,
10 because we didn't. And was there a need for it? Is there
11 a long-term plan? No, we didn't. So we will put
12 something together real quick and -- and identify what we
13 need to do in the near future.

14 Part of our -- that general operating plan
15 would be to include composting, hazardous waste management
16 plan as well, and continue on with our groundwater
17 management plan. We recognize that -- that we have
18 numerous wells that we can continue to -- to sample and --
19 and, you know -- and -- and keep that program somewhat --
20 keep it alive, and -- and then continue what we're -- what
21 we're currently doing.

22 That's it for our presentation. So I'd
23 like to sit with my panel. And if anybody has any
24 questions, please -- please feel free to -- to ask.

25 THE CHAIRPERSON: Okay, thank you for your

1 presentation. I noticed that Aboriginal Affairs and
2 Northern Development Canada is here. If we -- could
3 identify yourselves and -- and who you're with. I'm not
4 to sure whether Environment Canada travelled with you.
5 You did. Great.

6 And if you have some open remarks, you can
7 make them before we go into some questioning for...

8 MS. JEANNE ARSENAULT: This is Jeanne
9 Arsenault, with Aboriginal Affairs and Northern
10 Development Canada, and with me is --

11 MS. MARIE ADAMS: Marie Adams, from Water
12 Resources Division. I'm glad to be here.

13 MS. MARY KELLY: And good morning, Mr.
14 Chair. We apologize for our tardiness to this meeting
15 this morning. My name is Mary Kelly, and I'm with
16 Environment Canada, and this is my colleague.

17 MS. SARAH-LACEY MCMILLAN: Hi, I'm Sarah-
18 Lacey McMillan. Mary and I are very pleased to be here
19 presenting on behalf of Environment Canada, our
20 intervention. And between the two (2) of us, we will be
21 sharing the presentation. We will specifically bring
22 forward for the Board's consideration our concerns
23 relating to the sewage disposal facility, as well as the
24 solid waste facility.

25 THE CHAIRPERSON: Okay, great. Thank you

1 for your opening remarks, and welcome. And so the order
2 of questioning now to the applicant, the Town of Fort
3 Smith. We will start with the Government of the Northwest
4 Territories, ENR. Todd, is that yourself? Are you going
5 to be presenting?

6

7 (BRIEF PAUSE)

8

9 QUESTION PERIOD:

10 MR. TODD PAGET: Mr. Chair, my name is
11 Todd Paget. I am an industrial specialist with the
12 Department of Environment and Natural Resources. I'm also
13 a registered environmental systems engineer with Northwest
14 Territories/Nunavut Association of Professional Engineers
15 and Geoscientists, and also a designated inspector under
16 the Northwest Territories Environmental Protection Act.

17 Also with me today we have Diep Duong, who
18 is the solid waste management specialist for the
19 Department of Environment and Natural Resources, as well.
20 Also environmental engineer, a professional engineer as
21 well, and also designated inspector.

22 I'm just going to turn over the mic then
23 now to Diep. I believe she has a couple questions she'd
24 like to ask.

25 THE CHAIRPERSON: Great. Thank you, then.

1 If you could just identify yourself again for the record,
2 we -- that'd be much appreciated.

3 MS. DIEP DUONG: Thank you, Mr. Chair. My
4 name is Diep Duong. I'm with the Department of
5 Environment and Natural Resources, and I do have one (1)
6 question for the Town.

7 I thought I'd heard Jean say that some
8 places are using groundwater as a drinking source. Is
9 that correct?

10 MR. JEAN SOUCY: I don't believe I said
11 that, no.

12 MS. DIEP DUONG: Sorry, my mistake then.
13 Thank you. That was the only question I had.

14 THE CHAIRPERSON: Thank you for that. You
15 --

16 MR. TODD PAGET: Mr. Chair, Todd Paget.
17 Actually, no, we don't have any further questions at this
18 time. Actually, the presentation was quite useful. It
19 helped us out, and I believe that any further
20 clarification would be offered probably in follow-up
21 questions to our presentation. Thank you.

22 THE CHAIRPERSON: Okay. Thank you for
23 that. Then we will go to Environment Canada. Again, if
24 you could just identify yourself.

25 MS. MARY KELLY: Thank you, Mr. Chair. I

1 just have three (3) brief questions for clarification.
2 The first question is with regards to the retention time
3 in the sewage lagoon. In this presentation we learned
4 that the retention time is four (4) months, but up until
5 this presentation we've been told that it's three (3)
6 months of retention time.

7 So I'd like the Town of Fort Smith to
8 confirm how long the retention time is in the sewage
9 lagoon.

10 THE CHAIRPERSON: Okay, thank you. And
11 you didn't identify yourself, for -- for the records.

12 MS. MARY KELLY: My apologies. My name is
13 Mary Kelly, and I'm with Environment Canada.

14 THE CHAIRPERSON: Thank you. To the Town
15 of Fort Smith.

16 MR. JEAN SOUCY: Thank you, Mr. Chairman.
17 All the documentation this Town currently has is that the
18 lagoon system is a four (4) month detention.

19 MS. MARY KELLY: Thank you for the this
20 clarification. My second question is with regards to -- I
21 was wondering if the Town has collected any raw sewage
22 samples, and if this has taken place if they can identify
23 the water quality of the raw sewage samples, if that
24 information is available. Thank you.

25 THE CHAIRPERSON: Thank you. And again,

1 if you could identify yourself for the record. Sorry.

2 MR. JEAN SOUCY: Sorry, Jean Soucy. Thank
3 you, Mr. Chairman. Raw sewage, you mean by raw sewage
4 entering the lagoon -- prior to entering the lagoon
5 system?

6 MS. MARY KELLY: Yes, that's correct.

7 MR. JEAN SOUCY: Not as of late. We don't
8 have any documentation on the sampling of the raw sewage.
9 It's not required by our current licence, so no, no
10 documentation could be provided at this time.

11 MS. MARY KELLY: Thank you, Mr. Chair, for
12 that clarification. Again, this is Mary Kelly with
13 Environment Canada.

14 My final question is with regards to the
15 solid waste disposal facility, and I'd just like to have a
16 -- I'd just like to ask this question, whether the Town of
17 Fort Smith practices any burning as management for the
18 solid waste facility.

19 MR. JEAN SOUCY: Jean Soucy, Town of Fort
20 Smith. Yes, we currently have a -- a burning program
21 where the burning pits are within a concrete structure,
22 which is fenced around and above, so the area is to -- to
23 keep the flaming embers or anything contained within the
24 burning pit. Subsequently, the addition to that burning
25 pit this summer is to provide a divider between burn pit 1

1 and burn pit 2 so that there's no cross-fires go from one
2 to the other, so that we can actually maintain fire on one
3 while we incur more burning material in the other, and
4 then flip back and forth and control it that way much
5 better.

6 THE CHAIRPERSON: Great. Thank you.
7 Further questions...?

8 MS. MARY KELLY: Thank you, Mr. Chair.
9 Just one (1) follow-up question to the burning program,
10 and perhaps this is identified in the presentation and I -
11 - I missed it. So if you could just clarify what
12 materials are currently accepted for the burning program.

13 THE CHAIRPERSON: Thank you. And if you
14 could please remember to identify yourself. They do
15 require it for the transcripts.

16 MR. JEAN SOUCY: Thank you, Mr. Chairman.
17 Jean Soucy, Town of Fort Smith. Yeah, the burning
18 materials that we allow solely are paper products mostly,
19 some backyard brush, and it is determined at that point
20 whether it goes into the burn pit or not. But no
21 construction material goes into the burn pit, it goes into
22 the construction landfill area. So predominantly, paper
23 products and some small brush and maybe grasses and
24 whatnot.

25 THE CHAIRPERSON: Thank you. Further...?

1 MS. MARY KELLY: This is Mary Kelly.
2 Thank you. This is -- this -- these are the questions
3 that I have for now. Thank you very much.

4 THE CHAIRPERSON: Great. Thank you for
5 that, then, and we'll now go to Aboriginal Affairs and
6 Northern Development Canada.

7

8 (BRIEF PAUSE)

9

10 MS. JEANNE ARSENAULT: Good morning. This
11 is Jeanne Arsenault with AANDC. We have no question at
12 this point.

13 THE CHAIRPERSON: Okay. Thank you. Next
14 on the list was North Slave Metis Alliance. I believe,
15 though, that they have notified us that they will not be -
16 - not be here, so I don't believe there's any registered
17 speakers. Anybody from the general public? So then we
18 will go to Board staff technical advisors or legal
19 representation for questions.

20 DR. KATHY RACHER: Excuse me. Kathy
21 Racher here for the Board. Thank you, Mr. Chair. Yes, I
22 have several questions for the Town. I'm going to start
23 with just about groundwater monitoring. I'm wondering,
24 when the ground -- groundwater water -- wells, sorry, were
25 installed, how long the landfill had been in operation?

1 And I was also wondering if there was any baseline, like
2 pre-operational data, on the groundwater wells, just for
3 clarification.

4 MR. JEAN SOUCY: To my knowledge, there
5 was no -- sorry, Jean Soucy, Town of Fort Smith. Thank
6 you, Mr. Chairman. To my knowledge, there was no baseline
7 prior to the -- the wells being activated. I think the --
8 the question was -- at the time was to identify some kind
9 of baseline, so introduce the well so that we could start
10 some kind of baseline. Prior to that -- prior to that,
11 the only sampling that was ongoing was the stream on the -
12 - on this -- sorry, the east, northeast of the landfill.

13 MR. MICHAEL STEED: This is Michael Steed
14 with AECOM. There are upgradient wells that are used to
15 represent background water samples. Based on the water
16 levels in the wells around the landfill, the direction of
17 water flow is to the north-northeast direction, and so the
18 wells that are in the south and southwest corners of the
19 landfill are used as upgradient and are representative of
20 background groundwater that's flowing through the landfill
21 area.

22 THE CHAIRPERSON: Thank you. Further from
23 Dr. Racher?

24 DR. KATHY RACHER: Kathy Racher for the
25 Board. On the same sort of topic, I guess, for the

1 surface water samples that are -- I believe it's SNP
2 Station 567-4, it -- it -- on page 3 of ENR's intervention
3 they stated that:

4 "It's evident based on elevated
5 concentrations of nickel, chromium,
6 copper, phosphorous, combined with
7 increased concentrations of sulfate,
8 chloride, and sodium in downgradient
9 samples that leachate is impacting
10 stream water."

11 When I looked at the -- the 2010 AECOM
12 report it is -- its clear that sulfate -- for -- at least
13 for sulfate, chloride, and sodium, there are higher
14 concentrations in the downstream site relative to the
15 upstream site.

16 But, again, I -- I'm not sure what the --
17 if there was no comment on what the baseline is, if you're
18 assuming that the upgradient site is truly a baseline site
19 or could be considered a baseline site or if you actually
20 know whether those concentrations had increased since
21 before the landfill was there or if they've just always
22 been at those levels.

23 THE CHAIRPERSON: Thank you. Town of Fort
24 Smith...?

25 MR. MICHAEL STEED: This is Michael Steed.

1 I think there was another question as to the location of
2 the upgradient surface water samples as well, that there
3 may be a concern that because of the way groundwater was
4 flowing, the direction it was flowing, that that may not
5 be a representative sample of -- of upgradient.

6 So one (1) of the things that -- that is a
7 possibility is trying to find a surface sample further
8 away, either further upstream away from the landfill that
9 would be more representative.

10 Historically, they had just started doing
11 the downgradient surface water sample. I think they did
12 that, took those samples for a number of years. And then
13 it was recommended that an upgradient surface water should
14 be -- sample should be taken. And so I think it was just
15 in 2009 and 2010 where they sampled from the so-called
16 upgradient surface water location.

17 I think another thing that could be looked
18 at is what the upgradient groundwater is as well and --
19 and what those concentrations are as the -- I think the
20 idea is that the -- the groundwater is feeding that stream
21 that runs on the northeast edge of the landfill.

22 That doesn't mean that there'll necessarily
23 be the -- the same chemistry because it is groundwater
24 compared with surface water. But if you did have elevated
25 concentrations in your background groundwater and saw that

1 in your surface water sample, it may not necessarily mean
2 that the landfill is impacting it because it's already in
3 your background groundwater sample, so. Thank you.

4 THE CHAIRPERSON: Further from the
5 Board...?

6 DR. KATHY RACHER: Kathy Racher, for the
7 Board. In -- again in the 2010 AECOM report it -- you
8 make the conclusion that the solid waste facility is
9 impacting the groundwater based on the elevated
10 concentrations of some parameters in the downstream
11 boreholes.

12 And I -- I just -- I guess I wanted you to
13 -- to explain what impact means and to differentiate
14 impact in your -- in your opinion. Does that mean that
15 there's just elevated concentrations, or does that mean
16 that there's something for -- for us to be worried about
17 in terms of the concentrations of -- of certain parameters
18 in the downstream boreholes?

19 THE CHAIRPERSON: Thank you. Town of Fort
20 Smith...?

21 MR. MICHAEL STEED: This is Michael Steed.
22 In the conclusions of that report, and I -- and I think
23 it's -- I think it's actually June, 2011. I -- I think it
24 had been referred to as 2010 in some other material, but I
25 think it was from this year.

1 In our -- in the conclusions of that report
2 it says that -- that there are some elevated
3 concentrations. And then the next sentence says:

4 "However, those elevated concentrations
5 of a number of parameters are also inser
6 -- observed within some upgradient
7 wells, indicating background
8 concentrations of these parameters are
9 present."

10 So there are some parameters where there is
11 an increase from the up-gradient to the down-gradient.
12 Some of those parameters are -- seen in the up-gradient
13 wells are over certain criteria, or comparison criteria
14 that has been used historically at the site, so it's
15 possible that the landfill is impacting the -- the
16 groundwater, but I think you -- you bring up a good
17 question as to what is the risk of that impact.

18 If we go from a background concentration of
19 -- of 4 milligrams per litre of sodium and -- and on the
20 down-gradient wells it goes to 40 milligrams per litre of
21 -- of sodium, that's still very low and is not a -- a risk
22 to aquatic life or drinking water or -- or any sort of
23 criteria; it's -- it's not -- it's just a change. Because
24 the landfill is there it -- it seems though the landfill
25 is impacting groundwater. You could maybe go somewhere

1 else and see that change as well, just as groundwater is
2 travelling through the ground it will naturally pick up
3 some things as well.

4 There was a -- a report by IEG
5 Environmental in 2004, and they had discussed with an
6 inspector -- water inspector with DIAND, and he had
7 indicated -- Wayne Starling was his name -- and he had
8 indicated that:

9 "Existing escarpment-like conditions
10 form the banks of the Slave River in the
11 vicinity of the Fort Smith landfill.
12 Soil samples collected from upper, mid,
13 and bottom lands would be comprised of
14 significantly different soil horizons
15 and would also exhibit varying physical
16 and chemical properties."

17 And so as you take samples from different
18 levels within the bank there you can have chemical change
19 as well, but I think because the landfill is there it's --
20 it -- it's eas -- easy to say that the landfill is
21 impacting the groundwater.

22 THE CHAIRPERSON: Thank you. Further,
23 Kathy?

24 DR. KATHY RACHER: Kathy Racher for the
25 Board. Thank you.

1 And thank you for the clarification. Yes,
2 it is the 2011. I com -- sometimes forget we are in 2011.
3 I don't know where I am. 2011 AECOM report, thanks.

4 Have you -- when I -- when I looked at --
5 I've looked at the data -- like, the -- the tables of
6 numbers and the graphs that you provided in the 2011
7 report, and I -- I don't see -- for any parameter I
8 haven't seen an increase of any parameter over time --
9 like, a consistent trend over time. And I -- I just
10 wanted to confirm that with you.

11 Have you seen any increases over -- over
12 the past several years that you've been doing the
13 monitoring in any particular parameter?

14 THE CHAIRPERSON: Thank you. The Town of
15 Fort Smith...?

16 MR. MICHAEL STEED: This is Michael Steed.
17 You know, like I -- like, I mentioned those wells had been
18 put in in 2001, so we've had monitoring results for the
19 past ten (10) years, roughly. And I think, as you
20 mentioned, that it -- the graphs that are provided in that
21 report are -- are a good visual representation that things
22 have been pretty steady across there, and there isn't an
23 increasing trend -- they kind of bounce around, which is
24 typical depending on the conditions, but they're --
25 haven't noticed a -- an increasing trend in any of the --

1 the parameters.

2 DR. KATHY RACHER: Kathy Racher, for the
3 Board. Okay. Thank you.

4 In your response to interventions you've
5 indicated support for a groundwater monitoring plan to be
6 a condition of the licence, and I'm just wondering if you
7 believe that this plan should replace the existing SNP
8 requirement. So, having a monitoring plan developed by
9 the Town that would describe the -- the groundwater
10 monitoring requirements and what you do with the
11 information, et cetera, as you described in your response
12 to replace the -- what is in the SNP, which -- in which
13 the Board tells you exactly what is supposed to be done.
14 So, one (1) or the other, I just wondered what your
15 intention was.

16 THE CHAIRPERSON: Thank you. Back to the
17 Town of Fort Smith.

18 MS. LINDSAY MCINTYRE: Lindsay McIntyre,
19 with the Town of Fort Smith.

20 No, we don't intend to replace the SNP
21 program. The SNP program applies to all of our water, the
22 water distribution, discharge, and everything.
23 Groundwater monitoring applies only to the landfill, and
24 the groundwater monitoring plan would apply only to the --
25 only to the landfill as well.

1 DR. KATHY RACHER: Kathy Racher for the
2 Board. I guess I should clarify. I didn't mean to -- to
3 say it would replace all of the SNP monitoring that you
4 do, but just the requirements within the SNP for
5 groundwater monitoring, if you would -- if -- if you would
6 envision replacing those requirements with a groundwater
7 monitoring plan, but leaving the rest of the SNP
8 requirements in -- in place.

9 MR. MICHAEL STEED: This is Michael Steed.
10 I guess the idea for the groundwater monitoring plan would
11 to -- come up with -- with a plan of what -- you know,
12 what's outlined in that response there and provide it to
13 the Board, and have them agree or disagree. So that I
14 guess it would be the Town that would come up with it. I
15 -- with -- of what they wanted to sample for, what wells
16 they wanted to sample, and then that would be approved by
17 the Board if that was acceptable.

18 THE CHAIRPERSON: Thank you. Further from
19 the Board...?

20 DR. KATHY RACHER: Kathy Racher for the
21 Board. Okay, thank you. In your response to a
22 recommendation from Environment Canada on groundwater
23 quality guidelines, you stated, quote:

24 "Where the background wells have
25 parameters that exceed the guideline, it

1 is recommended that new performance
2 standards be developed using a
3 statistical analysis of historical data.
4 This analysis will find a value that is
5 statistically significantly higher than
6 the background natural value for each
7 parameter."

8 And I guess I -- I just didn't quite
9 understand what you meant by that, and wondered if you
10 could ex -- elaborate on that.

11 THE CHAIRPERSON: Town of Fort Smith...?

12 MR. MICHAEL STEED: It's Michael Steed.

13 What that would be is -- is, we have ten (10) years of --
14 of data from the background wells that provide us a -- a
15 baseline, and by using kind of the variation in -- in
16 those wells and putting it through a statistical analysis,
17 it's -- it's almost kind of a trial and error, where you
18 put a value in for a well and see if it's significantly
19 different from the background wells.

20 And once you get to that point, you -- you
21 kind of -- yeah, it's trial and error, where you put a
22 value in. If it -- if the -- statistically it's -- could
23 be similar to background, there's enough variance in the
24 background wells that that value that you've put in could
25 be considered part of that group, then it wouldn't be.

1 a firm believer. Okay. In the -- the Environment Canada
2 recom -- intervention, sorry, they've recommended changing
3 the upgradient surface water location, and I just wondered
4 if you agree with this recommendation, and how you chose
5 the current site that has been used in the AECOM 2011
6 report. Just some discussion about that.

7 THE CHAIRPERSON: Thank you. Back to the
8 Town of Fort Smith.

9 MR. MICHAEL STEED: It's Michael Steed.
10 Actually AECOM hasn't been involved in the sampling. It's
11 been IEG. We actually just -- AECOM reviewed the sampling
12 that's gone on for the past five (5) years. I -- IEG may
13 have chosen that sampling location based on accessibility.
14 I -- I'm not sure.

15 There was some discussion yesterday during
16 the tour if that creek goes further to the east, that may
17 be a better sampling location. The current background
18 sampling location -- surface waters location is upgrading
19 of part of the landfill, but maybe kind of sidegradient,
20 or downgradient to other parts of the landfill, so it may
21 not be the best location.

22 The one thing that -- that we -- we don't
23 know, and it would probably involve some hiking around and
24 -- and going to check out, is if there is surface waler --
25 water further away from the landfill, if that creek does

1 start further up to the east, and that -- that might be a
2 better location to -- to get a surface water sample.
3 Further -- just further away.

4 THE CHAIRPERSON: Thank you. Further from
5 the Board...?

6 DR. KATHY RACHER: Kathy Racher from the
7 Board. Because nobody else asked you a question, I feel
8 the need to -- to fill in for everybody.

9 I have a question, and -- and maybe you --
10 you've mentioned that IEG did the surface water sampling,
11 so maybe you're the wrong person to ask. I noticed that
12 the surface water sampling has been done and analyzed for
13 dissolved metals versus total.

14 There was a recommendation in the -- for
15 the borehole samples to use dissolved metals because of
16 problems with sediment issues, and I'm just -- I just
17 wondered why the surface water was also done with
18 dissolved.

19 THE CHAIRPERSON: Thank you. Over to Mr.
20 Steed.

21 MR. MICHAEL STEED: Yeah, I probably am
22 the wrong person to -- yeah, this is Michael Steed. Yeah.
23 Yeah, the wrong -- wrong person to ask.

24 And it's a little bit deceiving in -- in
25 the report because it says, "total trace metals," and then

1 in brackets it says "dissolved" behind it. So which --
2 which one is it, I -- I don't know, and -- and it -- and
3 that's maybe something I can look just quickly at the data
4 here, if I had a -- a moment, and could see what the lab
5 actually did test for.

6 That was part of the comments that we got
7 back as to which metal package should be used to analyze
8 which samples, and I think our response is -- was that
9 typically dissolved metal is tested for groundwater, and
10 total metals has -- has been used at other sites for the
11 surface water samples.

12 So, yeah, if they did do dissolved it may
13 have been an oversight, or a mistake, or it may just be --
14 or it could be just a misprint in the report as well. But
15 I could quickly take a look at the data, and just see if --
16 - if it is -- if the lab did test for total or dissolved.

17 THE CHAIRPERSON: Okay. Thank you. We
18 can give a few minutes, or do you have further questions,
19 Kathy?

20 DR. KATHY RACHER: Kathy Racher for the
21 Board. I do have just a couple more questions, but maybe
22 we could just take a ten (10) minute break?

23 THE CHAIRPERSON: That works for -- for
24 us. And go over -- our time is okay for --

25 DR. KATHY RACHER: Kathy Racher for the

1 Board. Yeah, I've been in touch with them by text, and
2 they're -- they're fine. They're ready -- they're online
3 still, so they're ready any time we're -- we're ready.

4 So the ten (10) minute break, and another
5 three (3) questions, and -- and we go on to them?

6 THE CHAIRPERSON: Okay, Dr. Racher. We'll
7 take a ten (10) minute break.

8

9 --- Upon recessing at 10:59 a.m.

10 --- Upon resuming at 11:15 a.m.

11

12 THE CHAIRPERSON: Okay, thank you. So
13 then we'll go back to the Town of Fort Smith, who was
14 going to come up with...

15 MR. MICHAEL STEED: Michael Steed. I --
16 I did some homework, and it is total metals that they've
17 tested for on the surface water.

18 THE CHAIRPERSON: Okay, thank you for
19 that. And back to the Board.

20 DR. KATHY RACHER: Kathy Racher, for the
21 Board. Thanks for looking that up. That was important.

22 You have indicated your support for
23 writing a closure plan for -- for your facilities. I --
24 I believe it's just the land far -- landfill facility.
25 And I -- I just wondered if you meant to the support the

1 inclusion of an interim plan as recommended by ENR or
2 just a final one, and how long in advance of closing the
3 facility were you thinking of -- of -- would be
4 reasonable to submit the plan, or were you planning on
5 doing an interim plan very soon?

6 MR. JEAN SOUCY: Jean Soucy, the Town of
7 Fort Smith. We -- we hope to provide a plan within the -
8 - within the next year to identify closure and
9 reclamation of our landfill. And AECOM would provide the
10 rationale for -- for a lot of the information that --
11 that they have on the landfill. And hopefully we can
12 have a plan within -- within the year.

13 THE CHAIRPERSON: Thank you. Kathy...?

14 DR. KATHY RACHER: Kathy Racher, for the
15 Board. Thank you. I'm just wondering, in your responses
16 to comments there was no mention of the -- the memo the
17 Board had commissioned from the Golder Associates
18 regarding the application of our water and effluent
19 quality management policy to the EQC for the sewage.

20 And I just wondered if you had any
21 comments or -- or on the recommendations that Golder made
22 in their report?

23 THE CHAIRPERSON: Thank you. Back to the
24 Town of Fort Smith.

25 MR. JEAN SOUCY: Jean Soucy, Town of Fort

1 Smith. We have no comments at this time.

2 DR. KATHY RACHER: Kathy Racher, for the
3 Board. Okay. In -- in that memo they identified that
4 the level of ammonia in the effluent is potentially
5 acutely toxic, and so they've recommended that potential
6 mechanisms by which ammonia levels in the treated
7 effluent could be lowered should also be investigated.

8 And I'm just wondering if the Town has
9 ever investigated options for improving the -- the sewage
10 treatment with respect to ammonia and if it had any plans
11 to do so?

12 THE CHAIRPERSON: Thank you. Back to the
13 Town of Fort Smith.

14 MR. JEAN SOUCY: Jean Soucy, Town of Fort
15 Smith. No, no plan is -- or no investigation of the
16 current ammonia reduction has been investigated by the
17 Town of Fort Smith. We currently, as per our water
18 licence, test for ammonia. No parameters are set as part
19 as -- as part of the licence and so there's no plans to -
20 - to reduce the amount of ammonia in the near future.
21 Thank you.

22 THE CHAIRPERSON: Thank you for that.
23 Back to the Board.

24 DR. KATHY RACHER: Excuse me. Kathy
25 Racher for the Board. Okay, just one (1) last question.

1 During the technical session there was a
2 discussion about your ability to collect a full strength,
3 100 percent effluent sample with which to do an acute
4 toxicity test. And I think there was a bit of discussion
5 that maybe the test recommended by Environment Canada
6 would require less volume than you're currently taking.

7 And I just wondered if you could just
8 clarify to the Board the difficulties that you face in --
9 in collecting 100 percent effluent sample and -- and
10 whether, you know, this is a possibility for you.

11 MR. JEAN SOUCY: Currently -- sorry, Jean
12 Soucy, Town of Fort Smith. Currently we -- we collect
13 sixty (60) litres of -- of water which discharges into
14 the diffuser as close as possible to the -- to the
15 discharge at the river. Sixty (60) litres is -- is sent
16 out to Edmonton for -- for bioassay analysis. Taking it
17 from end pipe, which would mean our -- our station 5 --
18 567-2 is a manhole location where we would have to
19 construct a way of sampling that to -- to incur sixty
20 (60) litres, should there -- should that standard still
21 be there, or should that amount still be required, the --
22 that would be the challenge for us.

23 DR. KATHY RACHER: Okay. Kathy Racher
24 for the Board. That's it for my questions for the Town.
25 I believe the consultants are online and are ready to

1 just give a summary without a presentation. Oh, I'm
2 sorry.

3 THE CHAIRPERSON: Okay. Is this part of
4 the questioning, or they -- they're up next?

5 DR. KATHY RACHER: Kathy Racher for the
6 Board. I apologize. I -- other people may have
7 questions. I just wanted to let you know that the
8 consultants are online when you're ready to --

9 THE CHAIRPERSON: Right.

10 DR. KATHY RACHER: -- to tell them to
11 give their presentation.

12 THE CHAIRPERSON: Great. Thank you for
13 that. We'll just -- is there anything further from --
14 from the Board? Okay. Then we'll go to the Board
15 members then, starting with Floyd Adlem.

16 MR. FLOYD ADLEM: Thank you, Mr. Chair.
17 I have a couple of questions that are more born out of
18 curiosity than anything else.

19 The first one was the water intake -- you
20 mentioned the -- the water intake pipeline, that the land
21 actually moves five (5) to six (6) inches a year under
22 there.

23 Does -- do you foresee any problems with
24 your actual intake structure? The con -- I mean, this is
25 a tremendous amount of pressure in that earth moving

1 downhill. Is there a survey done of that structure to
2 determine whether it moves or anything like that?

3 MR. JEAN SOUCY: Jean Soucy, Town of Fort
4 Smith. That -- that has been a concern for many years
5 for a lot of us for our intake structure. However, if
6 you noticed yesterday there was a fair amount of water --
7 the water level was quite high. And even though the
8 intake is embedded in the con -- the rock bed, when the
9 water level rises to a certain level, especially on
10 break-up in the springtime and as it is now, water will
11 actually go around the intake structure and erode any
12 sand that may be building up to the intake structure. So
13 at least once annu -- once annually on break-up that --
14 that amount of -- of sand that may have slowly crept up
15 to the intake is actually washed away.

16 MR. FLOYD ADLEM: Floyd Adlem for the
17 Board. Thank you.

18 Just another one. You mentioned that you
19 have a summer extension of water lines into certain areas
20 because of the high water table. That -- then I would
21 assume that there's also sewage pick-up at those
22 locations as well, is that correct?

23 MR. JEAN SOUCY: Jean Soucy, Town of Fort
24 Smith. Yes, that's correct. So the only extension is
25 water and the sewage pump-out is -- continues on as -- as

1 is normal.

2 MR. FLOYD ADLEM: I'm confused here.
3 Floyd Adlem, Board. Just one (1) last comment. The --
4 or question.

5 The solid waste disposal facility has
6 uranium storage in it. Does -- are there any plans for
7 that, or does it just stay there forever, or is some
8 going -- somebody going to -- I mean, does Atomic Energy
9 of Canada have any responsibilities to that, or what --
10 what's -- sort of what's the status of that?

11 MR. JEAN SOUCY: Jean Soucy, Town of Fort
12 Smith. I'd like to know if Brian Geddes is online to
13 address that concern for AECL.

14 MR. BRIAN GEDDES: Yes. Yes. Brian
15 Geddes from AMEC is -- is online, and I think I can
16 address that. I'm -- I'm speaking on behalf of the low-
17 level radioactive waste management office, which is part
18 of Atomic Energy of Canada Limited, and the office, it
19 does have an active program examining options for looking
20 at all of their residual northern transportation network
21 uranium ore legacy soils that remain in the South Slave,
22 and that would include the materials at the -- at the
23 cell at -- at the municipal landfill site.

24 So the key issue there is -- is
25 determining, in consultation with the community, what an

1 appropriate, or where an appropriate, long-term
2 management facility could be located for those materials,
3 hopefully in the local area. And that process of
4 consultation and siting is going to be ongoing over the
5 next year or two (2), and as that siting process unfolds,
6 long-term plans for the disposition of the materials in
7 that existing cell will -- will be developed.

8 So the short answer is, yes, there is a
9 process in place to deal with those materials over the
10 long term, and the timing of that program will depend on
11 the outcomes of the consultations that we're initiating
12 with the community.

13 THE CHAIRPERSON: Thank you for that
14 response to Floyd's question. Further, Floyd...?

15 MR. FLOYD ADLEM: I -- I have no further
16 questions, Mr. Chair.

17 THE CHAIRPERSON: Thank you. Patrick...?

18 MR. PATRICK LAROCQUE: I have no
19 questions at this time, Mr. Chair. Thank you.

20 THE CHAIRPERSON: Okay. Thank you.
21 Keyna...?

22 MS. KEYNA NOWEGIAN: Thank you. I have
23 no questions at this time.

24 THE CHAIRPERSON: Okay. That concludes
25 the presentation and questions to the Town of Fort Smith.

1 Thank you for your cooperation. And so then we'll go to
2 Golder Associates, who are on -- online, then, for their
3 -- their quick presentation.

4

5 PRESENTATION BY BOARD'S INDEPENDENT EXPERTS: GOLDER
6 ASSOCIATES LTD.

7 MR. J.P. BECHTOLD: Thank you, Mr. Chair.
8 Good morning, Mr. Chair and Board staff and -- and Board
9 members. My name is J.P. Bechtold. I have with me Ms.
10 Alison Humphries. We're both with Golder Associates,
11 based in Calgary. Appreciate having the opportunity
12 today to provide you with a brief summary of the work
13 that we concluded -- or that we completed for the Board.
14 My presentation will be a verbal summary of the key
15 points from the memorandum which we issued to the Board
16 on July 5th, 2011.

17 The -- Golder was engaged in June of this
18 year to develop environmental quality -- or, sorry,
19 effluent quality criteria for the Town of Fort Smith.
20 This was done pursuant to the policy issued by the Board,
21 the policy being the water and effluent quality
22 management policy issued on March 31st of this year. The
23 policy envisions or provides a step-wise approach for the
24 control of the released material to the environment. It
25 envisions the source reduction, re-use, recycling, and

1 then, if required, discharge to the environment. If a
2 discharge is required, the policy envisions effluent
3 quality criteria being developed, and -- and that is
4 where our -- our work came in.

5 There is not yet an implementation guide
6 that's been published to support the policy, so our work
7 consisted initially of developing an approach to develop
8 the required environmental quality criteria, or EQCs --
9 sorry, effluent quality criteria, or EQCs. And then,
10 once we developed the approach, applying that to the Town
11 of Fort Smith to -- to produce the values requested by
12 the Board.

13 Our approach is outlined as a decision
14 tree in our memo; and rather than walk through the tree,
15 I believe the Board has a copy of the memo as well as the
16 other member -- other parties here at the hearing. So to
17 be efficient, I will just really hit on the -- the five
18 (5) key steps that Golder used when applying this
19 approach to the Town of Fort Smith.

20 Please let me know -- this is the first
21 time I've provided testimony at a hearing via conference
22 call, please let me know if -- if you are not able to
23 hear me, or if I am starting to -- to fade out.

24 The five (5) step process that we used
25 that started with identifying parameters of -- of

1 interest or a concern that would be applicable to the
2 Fort -- Fort Smith discharge, we ended up identifying
3 eight (8) parameters, those being: biochemical oxygen
4 demand, or BOD; fecal coliforms; total suspended solids,
5 or TSS; pH; total phosphorus; nitrates; nitrite; and
6 ammonia.

7 The second step in our process was to
8 define site-specific objectives that would apply in the
9 Slave River for each of those parameters. The -- the
10 site-specific objectives that we developed are based
11 primarily on guidelines for the protection of aquatic
12 life, or in the case of fecal coliforms, human
13 recreational use.

14 With the parameters having been defined,
15 the objectives identified, our third step was to define
16 what we referred to as an allocated mixing zone. It
17 alternatively could be referred to as a regulatory mixing
18 zone. We defined two (2) of those: One (1) for
19 protection against acute effects, which we defined as --
20 as meeting at the end of pipes, so no -- no mixing zone
21 in the river itself. And then the second mixing zone was
22 a chronic -- protection from chronic effects, and that
23 took the shape of a -- effectively a rectangle based --
24 that starts -- the sides of the rectangle is the -- about
25 half the river width -- under low flow conditions, ten

1 (10) times the river width for length, anchored at the
2 point of discharge.

3 We then went onto the fourth step in our
4 process, which was to develop water quality based EQCs,
5 effectively looking at -- for -- for exam -- for chronic
6 effect -- for protection with -- against chronic effects,
7 looking at, with our site specific objective, working
8 backwards to figure out what is the maximum material that
9 could be released by the Town of Fort Smith while still
10 meeting the site specific objective at the boundary of
11 the mixing zone.

12 Once that work was completed, we compared
13 the water quality based EQCs that we developed to those
14 where appropriate, or where available, that have already
15 been defined in the Town of Fort Smith's current water
16 licence, those being for BOD, fecal coliforms, and total
17 suspended solids, and pH. Based on that comparison, we
18 came up with our recommendations, our key findings and
19 recommendations, which I will now summarize briefly.

20 For BOD, TSS, fecal coliforms, and pH, the
21 current limits included in the Town of Fort Smith's water
22 licence are protective of water quality. They are
23 actually more restrictive than what we would have -- what
24 we developed as a water quality based -- effluent quality
25 criteria -- or EQC, sorry -- and we therefore recommend

1 that the current limits be carried forward into the renew
2 -- renewed licence.

3 We would recommend testing for total
4 phosphorus, nitrate, and nitrite in the treated effluent.
5 Although we are of the opinion that the Town of Fort
6 Smith could likely meet the water quality based EQCs that
7 we've developed, we feel that it would be prudent to
8 initially collect some more information about the
9 concentrations of those parameters in the treated
10 effluent prior to imposing a limit.

11 And finally, we suggest, or recommend,
12 that there be a further evaluation of ammonia levels in
13 the -- ammonia levels in terms of -- as Dr. Racher
14 provided earlier in her question around potential
15 improvement of removal mechanisms or re -- further
16 evaluation of whether an acute mixing zone that
17 encompasses part of the Slave River should be considered,
18 because it looks like the water quality based EQC that
19 we've developed is not -- does not appear to be currently
20 achievable at the end of pipe. And that really touches
21 on the -- the key recommendations that we put forward.
22 There are a few others in -- in the memo, but they are
23 not as -- I would say they're of lesser significance.

24 That concludes our brief oral summary.
25 I'd be -- Alison and I are -- are happy to answer

1 questions.

2 THE CHAIRPERSON: Okay. Great. Thank
3 you for that presentation. Then we'll now go to
4 questionings of -- questions for the Golder & Associates,
5 and starting with the Town of Fort Smith.

6

7 QUESTION PERIOD:

8 MR. JEAN SOUCY: Thank you, Mr. Chairman.
9 Jean Soucy, the Town of Fort Smith. We don't have any
10 questions at this time.

11 THE CHAIRPERSON: That's for all three
12 (3) of you, no -- there's no questions? Oh, go right
13 ahead. Now, just identify yourself.

14 MS. LINDSAY MCINTYRE: Lindsay McIntyre,
15 the Town of Fo -- Fort Smith. I do have a couple of
16 questions.

17 The chronic mixing zone was set based on a
18 river width of 290 metres. The river at our discharge is
19 1 1/2 kilometres.

20 Where did the 290 metres come from?

21 THE CHAIRPERSON: Okay, thank you then.
22 The answer from Golder & Associates.

23 MR. J.P. BECHTOLD: The -- the 290 metre
24 width that we estimated was based on the gauge station
25 that is located at Fitzgerald under a low flow -- it's

1 called 7Q10 (phonetic) flow condition. 7Q10 means lowest
2 flow observed over seven (7) consecutive days with a ten
3 (10) year return period.

4 THE CHAIRPERSON: Okay, thank you. Back
5 to the Town of Fort Smith.

6 MS. LINDSAY MCINTYRE: What would justify
7 an acute mixing zone instead of end-of-pipe for ammonia
8 testing?

9 THE CHAIRPERSON: Okay, back to Golder.

10 MR. J.P. BECHTOLD: J.P. Bechtold, with
11 Golder Associates. I think one could entertain an acute
12 mixing zone if your -- if the treated effluent was not
13 acutely toxic at the end-of-pipe, but would -- would at
14 the end of -- as -- as evaluating using a rainbow trout
15 and ninety-six (96) hour test, but may contain a
16 parameter -- an individual parameter that is over an
17 acute guideline.

18 THE CHAIRPERSON: Okay, thank you. Town
19 of Fort Smith...?

20 MS. LINDSAY MCINTYRE: Lindsay McIntyre,
21 with the Town. I have no further questions.

22 THE CHAIRPERSON: Okay, thank you.
23 Anything further from the Town?

24 Okay then. Thanks. We'll move on then
25 for any questions from ENR. Todd, did you have something

1 for Golder?

2 MR. TODD PAGET: Thank you, Mr. Chair.
3 Todd Paget, ENR. No, we don't have any questions at this
4 time for them. Thank you.

5 THE CHAIRPERSON: Okay. Fine. Thank
6 you. We'll go to Environment Canada. Any questions?

7 MS. MARY KELLY: Thank you, Mr. Chair.
8 This is Mary Kelly, with Environment Canada. I have a
9 series of questions, being as this is our first
10 opportunity to inquire of the contents of the memo. And,
11 as I understand, we'll have an opportunity following
12 today's hearing to provide written comments.

13 So the first question I have is with
14 regards to Table 1, the total ammonia values. There's a
15 chronic and acute toxicity value stated at a specified pH
16 and temperature. For chronic, it's identified as 2.1
17 milligrams per litre, and for acute, it's 3.8 milligrams
18 per litre.

19 These numbers were developed from a US EPA
20 2006 document, or recommended criteria. I would ask that
21 Golder provide some explanation as how these two (2)
22 numbers, two point one (2.1) and three point eight (3.8),
23 were arrived at.

24 THE CHAIRPERSON: Okay, thank you for the
25 question. Over to Golder.

1 MR. J.P. BECHTOLD: J.P. Bechtold, Golder
2 Associates.

3 The two (2) numbers in question were
4 developed as suggested by Environment Canada using the
5 US-EPA water quality criteria. The Ph -- the chosen Ph
6 and temperature for the chronic guideline represent
7 conditions in the Slave River; the Ph used to determine
8 the acute guidelines was based on 95th -- or sorry, 80
9 percentile of recorded Ph in the treated effluent.

10 THE CHAIRPERSON: Thank you for that.
11 Back to Environment Canada.

12 MS. MARY KELLY: Thank you, Mr. Chair.
13 Following up with that question: If it could be
14 identified what specific document those recommendations
15 appear in. As well as, whether there was a specific un-
16 ionized ammonia value that was the starting point for
17 determining these total ammonia values.

18 THE CHAIRPERSON: Okay. Thank you.
19 Back to Golder.

20 MR. J.P. BECHTOLD: J.P. Bechtold, Golder
21 Associates.

22 To answer the first question, the document
23 -- the reference document for the EPA values was -- it is
24 referenced in our technical memo. It is the 2006 --
25 sorry, just one (1) second. It is the 2006 National

1 Recommended water quality criteria produced by the office
2 of Water.

3 In terms of the second quest -- part of
4 the question, the un-ionized ammonia, the US EPA
5 guideline takes into account the toxicity associated with
6 both forms of ammonia, its ionized and un-ionized form,
7 so it does not have a root -- a root un-ionized form such
8 -- similar to what is the basis of the CCME guideline.

9 THE CHAIRPERSON: Okay. Thank you.
10 Back to Environment Canada.

11 MS. MARY KELLY: Thank you for that
12 answer. I did review the document that is in the
13 reference table, but was unable to find the information
14 that I've requested, so I will continue to pursue that on
15 my own.

16 My second question is with regards to the
17 temperature which has been -- for the -- for the ammonia
18 it has been identified that 4 degrees Celsius is the
19 appropriate temperature. Another part of the document
20 identifies that the Slave River and the lagoon would have
21 comparable temperatures.

22 Can Golder provide some explanation as to
23 how the four (4) degrees Celsius is an appropriate
24 temperature when there are other times of year when the
25 lagoon temperature and the Slave River temperature gets

1 to 20 degrees cel -- Celsius at which point the ammonia
2 may be behaving in a different way?

3 THE CHAIRPERSON: Thank you for that
4 then. Over to Golder.

5 MR. J.P. BECHTOLD: J.P. Bechtold, Golder
6 Associates.

7 The temperature of 4 degrees was selected
8 to represent winter conditions when the low 7Q10 flow
9 would be expected to occur. We do acknowledge that --
10 that other times of the year, the temperature in the
11 lagoon and the river would be different, but so too would
12 the flow; they would be higher which would provide more
13 -- somewhat of capacity. And we -- we're of the opinion
14 that the winter condition is -- is the more restrictive.

15 THE CHAIRPERSON: Thank you. Back to
16 Environment Canada.

17 MS. MARY KELLY: Thank you, Mr. Chair.
18 Along the same lines of questioning, it was mentioned
19 that was a CCME guideline for ammonia. And if Golder
20 could provide some explanation why the US EPA criteria
21 was used, as opposed to the CCME guideline for the
22 protection of aquatic life.

23 THE CHAIRPERSON: Thank you for the
24 question. Over to Golder.

25 MR. J.P. BECHTOLD: J.P. Bechtold, with

1 Golder Associates.

2 We selected to use the US EPA guideline
3 over the CCME guideline for primarily two (2) reasons.
4 First, the US EPA criteria provides acute and chronic
5 values, whereas the CCME guideline currently only
6 provides chronic. And, secondly, the US EPA guideline
7 accounts for the toxicity of both forms of ammonia, un-
8 ionized and ionized, whereas the CCME guideline is based
9 primarily, or exclusively, on the un-ionized form.

10 THE CHAIRPERSON: Thank you. Back to
11 Environment Canada.

12 MS. MARY KELLY: Thank you for this
13 clarification. This is Mary Kelly with Environment
14 Canada. Moving on to the mixing zone boundaries, there's
15 -- there's a -- there's a determination of 10 percent of
16 the river width is affected, and I -- I understand that
17 there's some deliberation over the actual -- the actual
18 width of the stream at this -- of the river at this
19 point. But if Golder could provide some explanation as
20 to why 10 percent of the stream width was chosen, and
21 whether this was based on specific data or site
22 observations that would lead to that conclusion?

23 THE CHAIRPERSON: Thanks for the
24 question. Over to Golder.

25 MR. J.P. BECHTOLD: J.P. Bechtold with

1 Golder Associates. The 10 percent fraction of flow is a
2 -- is a default value recommended by Alberta Environment
3 using -- in -- in these type of calculations. It was not
4 derived from site-specific information. We didn't have
5 any information to -- at our -- we didn't have any
6 information available at the time we completed the study
7 to suggest that a value other than the 10 percent default
8 recommended by Alberta Environment would be more
9 appropriate.

10 THE CHAIRPERSON: Thank you. Further
11 from Environment Canada...?

12 MS. MARY KELLY: Mary Kelly with
13 Environment Canada. Just following up on that, I
14 appreciate that you were restricted by the information
15 that was provided. In your view of things, would it be
16 appropriate, if site observations indicated differently,
17 to apply a different factor?

18 THE CHAIRPERSON: Over to Golder.

19 MR. J.P. BECHTOLD: J.P. Bechtold with
20 Golder Associates. The short answer would be yes. If
21 site-specific information were to indicate that mixing
22 rates were either greater than or less than that of the -
23 - by the -- by the boundary of the allocated mixing zone,
24 then that could be -- or that -- it would be worth
25 evaluating that.

1 MS. MARY KELLY: Thank you, Mr. Chair.
2 Again, Mary Kelly with Environment Canada. I would like
3 to spend a few minutes on the technology-based EQCs that
4 have been identified. As far as I understand, the
5 technology-based EQC, that terminology comes from the
6 Alberta Environment document. I would like Golder to
7 provide specific reference to where the technology-based
8 EQCs that are in the report were set out.

9 THE CHAIRPERSON: Thank you. Over to
10 Golder.

11 MR. J.P. BECHTOLD: J.P. Bechtold, Golder
12 Associates. If I could ask for one (1) point of
13 clarification. When Environment Canada asks for
14 clarification on where the technology-based limits are
15 set out, is that within our memo or within the Alberta
16 Environment document which was mentioned?

17 THE CHAIRPERSON: Environment Canada...?

18 MS. MARY KELLY: Mary Kelly with
19 Environment Canada. Specifically, I'm requesting how, in
20 applying a different jurisdiction's process to this
21 jurisdiction, it was identified that technology-based
22 limits should be compared to water quality based limits.
23 The technology-based limits identified in the report come
24 from the water licence, and if I could have clarification
25 as to whether the water licence requirements are

1 therefore the technology-based effluent quality criteria,
2 or if there's a different document that provided some
3 direction on what would be technology-based effluent
4 quality criteria in the NWT.

5 THE CHAIRPERSON: Thank you for that.
6 Over to Golder.

7 MR. J.P. BECHTOLD: J.P. Bechtold, with
8 Golder Associates. Thank you for the clarification.

9 There is currently -- well, to our
10 knowledge there is currently not a published document
11 within -- specific to the NWT that lines out the minimum
12 -- that outlines minimum applicable standards for
13 treatment at the current dilution in the river. And so
14 in the absence of -- of that material we used the current
15 licence limits as -- as effectively a surrogate for what
16 -- what would be a technology based limit for this
17 scenario.

18 MS. MARY KELLY: Mary Kelly, with
19 Environment Canada. Thank you for that information. If
20 I may push further with that question.

21 It was identified that there are no limits
22 set according to the dilution in the receiving
23 environment, which I would suggest is a water quality
24 based limit and not a technology based limit -- not a
25 minimum standard of treatment before the receiving

1 environment receives it.

2 So if Golder would clarify whether --
3 whether the lack of standards is a lack of technology
4 based standards or -- or simply that there is no water
5 quality based recommendations based on this dilution in
6 the receiving environment.

7 THE CHAIRPERSON: Thank you for the
8 question. Over to Golder.

9

10 (BRIEF PAUSE)

11

12 MR. J.P. BECHTOLD: J.P. Bechtold, of
13 Golder Associates. The -- the accounting for -- the
14 accounting for dilution would imply a water quality based
15 -- would imply a water quality based background; however,
16 it is -- it is our understanding of the -- of the
17 available information that there isn't anything that does
18 -- the -- the document that we've referred to in our
19 memo, that being the Northwest Territories Water Board
20 1992 publication, the way in which it presents treatment
21 standards is by dilution. To our understanding, that is
22 the closest information available for the NWT to define
23 treatment standards, although I do acknowledge
24 Environment Canada's point about are they truly strict --
25 are they truly independent of water -- of a water quality

1 based limit. But they are the best that we were able to
2 identify.

3 THE CHAIRPERSON: Thank you. Back to
4 Environment Canada.

5 MS. MARY KELLY: Thank you. I believe I
6 just have two (2) more questions. This is Mary Kelly
7 with the Board (sic).

8 If Golder can provide some explanation as
9 to the second, or one (1) of the two (2) priorities of
10 the effluent qualities policy with regards to minimizing
11 the amount of waste being discharged to the environment,
12 and pollution prevention.

13 THE CHAIRPERSON: Okay. Thank you for
14 that question. Back over to Golder.

15 MR. J.P. BECHTOLD: J.P. Bechtold, with
16 Golder Associates. I apologize, I'm -- I'm not clear on
17 the information that's being requested. Could you please
18 repeat the question.

19 THE CHAIRPERSON: Okay. Back to Ms.
20 Kelly.

21 MS. MARY KELLY: Thank you very much. I
22 just would like to reference a section of the policy, so
23 just one (1) moment.

24

25 (BRIEF PAUSE)

1 MS. MARY KELLY: Mary Kelly, with
2 Environment Canada. According to the -- the water and
3 effluent quality management policy, there are two (2)
4 main objectives with regards to regulating the deposit of
5 waste and setting effluent quality criteria. And it's my
6 understanding that Golder was tasked with recommending
7 effluent quality criteria.

8 The first objective is that water quality
9 in the receiving environment is maintained at a level
10 that allows for current and future water uses. And from
11 what I've read and learned from Golder today, I
12 understand that that objective has been satisfied.

13 The second objective is that the amount of
14 waste to be deposited to the receiving environment is
15 minimized, and the -- the memo from Golder does not
16 provide, to my -- from my opinion, sufficient explanation
17 as to how -- how this objective would be reached through
18 the recommended effluent quality criteria.

19 So if Golder could provide some input at
20 this point as to how to reduce the amount of waste?

21 THE CHAIRPERSON: Okay, thank you, Mary.
22 Then back to Golder.

23 MR. J.P. BECHTOLD: J.P. Bechtold, with
24 Golder Associates. Thank you for the clarification.
25 Where -- in our opinion, where we've addressed that

1 Again, Mary Kelly, with the Boar -- with Environment
2 Canada. My apologies. I recognize that it is good to
3 review the standards and methods from other jurisdictions
4 in the absence of having NWT-specific guidance.

5 And I reviewed the document, Standards and
6 Guidelines for Municipal wa -- Water Works, Wastewater,
7 and Storm Drainage, from 2006. And I would ask if Golder
8 has reviewed this document as well, specifically Sections
9 3.1.1 which provide an exception to lagoons for the
10 requirement of water quality based objectives as long as
11 those lagoons are designed and operated in accordance to
12 a fourteen (14) month retention time and discharging only
13 late spring to fall.

14 I would ask if Golder has reviewed this
15 and if Golder can identify why this information was left
16 out of the report?

17 THE CHAIRPERSON: Thank you for that
18 question. And back over to Golder.

19 MR. J.P. BECHTOLD: J.P. Bechtold, with
20 Golder Associates. Mr. Chair, could I please ask for the
21 reference document again. I -- I missed the reference.
22 Thank you.

23 THE CHAIRPERSON: Okay, over to Mary
24 Kelly.

25 MS. MARY KELLY: Mary Kelly, with

1 Environment Canada. It is titled, "Standards and
2 Guidelines for Municipal Water Works, Wastewater, and
3 Storm Drainage," dated 2006.

4 THE CHAIRPERSON: Okay, thanks. Back to
5 Golder.

6 MR. J.P. BECHTOLD: And -- sorry, J.P.
7 Bechtold, Golder Associates. If I could just paraphrase
8 what I've understood to be the question to make sure I'm
9 clear. It's my understanding, from what I've heard, that
10 there is a statement in -- in the reference document,
11 which I believe is an Alberta environment based document,
12 that indicates that water quality based limits can be
13 omitted or an exception be made of a lagoon as a fourteen
14 (14) month residence time and discharges in -- I think I
15 heard the late spring or fall, as I don't have the
16 reference document in front of me. I'm just asking for
17 conformation that I've understood the question correctly.

18 MS. MARY KELLY: Mary Kelly with
19 Environment Canada. That's correct, and just to further
20 clarify this is one (1) document where that best practice
21 is identified, but there are other documents.

22 THE CHAIRPERSON: Thank you. Back to
23 Golder.

24 MR. J.P. BECHTOLD: J.P. Bechtold of
25 Golder Associates. Given that the residence time of the

1 -- well, given the pra -- the residence time of the Fort
2 Smith lagoon system is four (4) months rather than the
3 fourteen (14) months, and that it's a continuous
4 discharge rather than a batch discharge, the noted
5 statement seemed to have limited applicability to the
6 current situation.

7 THE CHAIRPERSON: Further from
8 Environment Canada...?

9 MS. MARY KELLY: Mary Kelly with
10 Environment Canada. At this time, that concludes my
11 questions. Thank you very much.

12 THE CHAIRPERSON: Okay. And thank you
13 very much for some very interesting questions for the
14 Board's independent experts. And we'll go -- now go to
15 Aboriginal Affairs and Northern Development Canada.

16 MS. JEANNE ARSENAULT: This is Jeanne
17 Arsenault with AANDC. I have no question at this point.

18 THE CHAIRPERSON: Okay. Thank you, then.
19 We'll go to any registered speakers, which I don't
20 believe there are any. Any questions from the general
21 public?

22

23 (BRIEF PAUSE)

24

25 THE CHAIRPERSON: We'll then go to Board

1 -- Board staff. Dr. Racher, anything?

2 DR. KATHY RACHER: Kathy Racher for the
3 Board. Yes, I have a few questions.

4 First, I wanted to clarify. There was
5 some questions about the dimensions of the mixing zone,
6 and whether the size that -- the dimensions that Golder
7 came up with in their memo were appropriate or not. And
8 I -- I just wanted to ensure I understood.

9 My understanding from the calculations is
10 that in the end the spatial dimensions of the mixing zone
11 weren't used in the calculation, that, instead, you used
12 the assumption of the 10 percent fraction of flow as per
13 the Alberta Environment Guidelines.

14 And -- and I'm just -- I just wondered if
15 you could comment, too, on whether that's true, and which
16 one of the two (2) things, the spatially-restricted
17 mixing zone or the 10 percent fraction of flow would be
18 considered to be most conservative?

19 THE CHAIRPERSON: Thank you. Over to
20 Golder.

21 MR. J.P. BECHTOLD: J.P. Bechtold with
22 Golder Associates. To answer the first part of the
23 question, Mr. Chair, it is correct that the -- for the
24 purposes of the calculations outlined in the memo the
25 spatial extent of the mixing zone is somewhat immaterial.

1 It does -- it is the fraction of flow that -- that is
2 relevant in the -- in the approach taken.

3 In terms of the second part of the
4 question, which is more restrictive, or what -- be that
5 the fraction of flow or the spatial extent. Without
6 site-specific information it is difficult to -- to know
7 which would be more restrictive. Given what I understand
8 to be the -- the river is much wider at the -- at that
9 point it -- well, it -- it's difficult to say without
10 site-specific information.

11 THE CHAIRPERSON: Thank you. Back to the
12 Board.

13 DR. KATHY RACHER: Kathy Racher for the
14 Board. Environment Canada asked you some questions in
15 relation to the methods you undertook, and -- so Alberta
16 guidance, and our newly approved water and effluent
17 quality management policy.

18 And I just wanted to clarify that -- that
19 you were sort of tasked of -- to interpret the policy to
20 the best of your professional ability in terms of the
21 conditions that the Town of Fort Smith, and -- so the
22 guidance that you used from Alberta, I guess, in your
23 opinion, suited the -- what is in the policy at this
24 time?

25 THE CHAIRPERSON: Thank you. Over to

1 Golder.

2 MR. J.P. BECHTOLD: Yeah. J.P. Bechtold
3 with Golder Associates. Yes, that's correct. We -- we
4 were of the opinion that the procedures established by
5 Alberta Environment for setting water quality based
6 effluent limits mirrored the -- was well suited to -- as
7 a -- to complement the policy.

8 DR. KATHY RACHER: Thank you. Kathy
9 Racher for the Board. Okay. I wanted to ask you, for
10 the site-specific water quality objectives that you
11 chose, you generally used those that would protect
12 against chronic effects on aquatic organisms, and I'm
13 just wondering if that is a typical practice, and why you
14 wouldn't consider setting the objectives based on
15 background water quality in the Slave River instead?

16 THE CHAIRPERSON: Thank you. Over to
17 Golder.

18

19 (BRIEF PAUSE)

20

21 MR. J.P. BECHTOLD: J.P. Bechtold with
22 Golder Associates. To answer the first part of the
23 question, in my experience, it's generally standard
24 practice to use water quality guidelines rather than
25 background conditions when calculating effluent quality

1 criteria. There are challenges with using background
2 water quality when applying that at the end of a mixing
3 zone.

4 In my experience, it's been more
5 appropriate to use background when looking at
6 establishing a reach-specific objective, let's say a
7 long-term monitoring station that would fall outside of
8 the -- outside of -- or downstream of mixing zones rather
9 than -- rather than applying that at the mixing zone
10 itself.

11 THE CHAIRPERSON: Thank you. Back to the
12 Board.

13 DR. KATHY RACHER: Kathy Racher for the
14 Board. Okay, thank you. You've recommended that the
15 Town's sampling requirements be expanded to include --
16 include weekly sampling of the treated effluent, and I
17 just wanted further clarification on the basis of that
18 recommendation.

19 THE CHAIRPERSON: Thank you. Golder and
20 Associates...?

21 MR. J.P. BECHTOLD: J.P. Bechtold with
22 Golder Associates. There's two (2) reasons for the
23 recommendation about the increased sampling. The first
24 is -- is partly -- it's process related, process being
25 process that we use to develop the water quality based

1 objectives. The approach we've taken uses average
2 monthly limits and maximum daily limits, and to -- to
3 generate or measure compliance with an average monthly
4 limit requires more than one (1) sample a month. So
5 that's the first reason.

6 The second reason is to -- with respect to
7 the phosphorous, nitrates, nitrites, and ammonia, we --
8 we're of the opinion that more frequent monitoring would
9 give an idea of how variable are conditions in the lagoon
10 system. I do understand that there's a four (4) month
11 residence time on the secondary lagoon, so perhaps some
12 variability would be dampened out by that residence time.
13 But I think we're of the opinion that, at least over a
14 short term, some additional testing to identify how
15 variable conditions can be on a week to week basis would
16 be valuable.

17 THE CHAIRPERSON: Thank you. Back to
18 Kathy.

19 DR. KATHY RACHER: Kathy Racher for the
20 Board. You've recommended monitoring upstream
21 concentrations of some parameters, but have not
22 recommended monitoring in the receiving environment to
23 confirm that water quality objectives are indeed being
24 met. And I just wondered if -- what, in your
25 professional opinion, might be the benefit of receiving

1 water monitoring, and if you would recommend it in this
2 case, and, if so, where -- where would that kind of
3 monitoring take place?

4 THE CHAIRPERSON: Thank you. Back to
5 Golder.

6 MR. J.P. BECHTOLD: J.P. Bechtold for --
7 with Golder Associates. I'm going to answer the second
8 part of the question first. Would I recommend -- with
9 which -- that -- that question being: Would I recommend
10 in-stream monitoring downstream of the outfall in this
11 particular case?

12 My answer would be, No, I wouldn't, and
13 that's -- I think with the -- the results of our work
14 suggest that the discharge -- the effluent quality
15 objectives are going to be driven by technology-based
16 standards, at least for those parameters in the exception
17 -- for those parameters for which we are recommending
18 limits, BODs, faecal coliforms, total suspended solids,
19 and pH.

20 Under the restrictive mixing conditions
21 that we've looked at, those type -- those -- the current
22 life and limits are more restrictive than what -- what
23 the water quality based objectives are. And, given the
24 dilution capacity of the river, or at least similar
25 capacity, I -- I don't think that there would be much

1 benefit to -- to looking in the stream.

2 I think -- I think the efforts, and --
3 efforts required to complete such sampling may be better
4 directed at -- at other items. So to answer the third
5 part of the question, where would I -- or I guess the
6 third part of the question, I don't -- I wouldn't
7 recommend a specific location.

8 Coming back to the first part of the
9 question, is a gen -- in general terms is it valuable to
10 do in-stream monitoring for a confirm -- for a -- to
11 confirm that industry objectives are being met. In
12 situations where your EQCs are driven by water quality
13 based objectives I think you -- there is value in those
14 situations.

15 DR. KATHY RACHER: Thank you. That was a
16 very, very helpful response. Sorry, it's Kathy Racher
17 for the Board, and I have no further questions.

18 THE CHAIRPERSON: Great. Thank you for
19 that very interesting exchange. Is there anything
20 further from the Board? John, you good? So we'll go to
21 Floyd Adlem.

22 MR. FLOYD ADLEM: I have no questions,
23 Mr. Chair.

24 THE CHAIRPERSON: Pat Larocque...?

25 MR. PATRICK LAROCQUE: I have no

1 questions, Mr. Chair, thank you.

2 THE CHAIRPERSON: And Ms. Nowegian...?

3 MS. KEYNA NOWEGIAN: I have no questions,
4 thank you.

5 THE CHAIRPERSON: I just have one (1) for
6 Golder. The last licence, a requirement for a
7 groundwater monitoring around the landfill was put into
8 the SNP. This makes Fort Smith the only municipality in
9 the NWT to have groundwater monitoring around its
10 landfill. ENR and INAC have both recommended a
11 requirement for a groundwater mon -- monitoring
12 management plan of some sort.

13 Just, I guess, for interest sake, do you
14 feel that there should be more municipalities having this
15 put into their -- their water licence? And that's back
16 to Golder.

17 MR. J.P. BECHTOLD: J.P. Bechtold with
18 Golder Associates. I think it -- the question of whether
19 to include groundwater monitoring in -- in SNPs for other
20 municipalities is a bit beyond the scope of work for
21 which we were engaged.

22 I think it is -- I think it -- that being
23 said, to answer the question, I think in situations,
24 particularly if the -- I think monitoring around
25 landfills is generally of value to understand how -- if

1 the landfill is affecting groundwater in and around the
2 area.

3 I think that would be particularly
4 worthwhile in -- in a situation where the landfill may be
5 -- where that groundwater may be reporting to a surface
6 water. And so if there are situations like that then I
7 think it -- it could be worth extending what the Town of
8 Fort Smith does to -- to other towns.

9 THE CHAIRPERSON: Okay. Thank you, then.
10 There -- there are no further questions, and we will
11 break for lunch then. Lunch has been brought in to
12 everybody that's participating, whether in the audience
13 or up here, is -- is welcome to have some lunch. And
14 we'll try to make it with -- say half an hour, forty (40)
15 minutes, and then we'll be back to presentation from ENR.
16 Thank you. So, one o'clock, if we could all be back.

17

18 --- Upon recessing at 12:13 p.m.

19 --- Upon resuming at 1:04 p.m.

20

21 THE CHAIRPERSON: Okay. Good afternoon
22 and welcome back. We will continue on with our next
23 Intervenor presentation, which is GNWT-ENR, and Todd and
24 Diep. So you go right ahead.

25

1 PRESENTATION BY GNWT-ENR:

2 MR. TODD PAGET: Thank you, Mr. Chair.
3 Todd Paget, Department of Environment and Natural
4 Resources. I'll spare the formal introduction again. We
5 did that this morning. Diep Duong is again with me.

6 We're just going to give a very brief,
7 general overview of the ENR written presentation, and
8 basically cover the main points of -- of the
9 recommendations we made, and hopefully that allows a
10 little more time for more detailed questions and
11 discussion after the fact.

12 We'd just like to also offer a couple of
13 clarifications before we start. There's -- as we
14 discussed earlier, I think, there's -- quite a bit of
15 information is still coming and going around, and we've
16 been reviewing. We have a couple of points that we'd
17 like to clarify that are in our intervention right here
18 that might help right off the start. One is that our
19 intervention had stated we couldn't find evidence of
20 uranium monitoring. We have reviewed quite a few of the
21 other subsequent reports and found actually that there is
22 uranium monitoring occurring, and -- and the -- in the
23 groundwater sampling program that's happening from the
24 site, we found that in the appendix.

25 We also would like to acknowledge that

1 we've interchanged the terminology, I think, of closure
2 and reclamation with the abandonment closure or something
3 along that line a couple of times, recognizing, I think,
4 the Board's terms and conditions and the water licence
5 generally used one (1) term or whatever. But, for the
6 purpose of today, it's the same thing, and we're just
7 going to call it closure and reclamation, okay?

8 THE CHAIRPERSON: Just for the sake of
9 the interpreters, if we could just --

10 MR. TODD PAGET: Slow down?

11 THE CHAIRPERSON: -- slow down.

12 MR. TODD PAGET: Okay. Thank you, Mr.
13 Chair. Todd Paget, ENR. It's good coffee, so it's
14 working. We'll just give first a very brief overview.
15 We'll supply ENR's mandate with respect to the
16 proceedings here today, and the recommendations, of
17 course, and then questions, as I'd said.

18 ENR's mandate is to protect and enhance
19 the environmental quality in the north, and the Northwest
20 Territories, to be more exact, and specifically with
21 respect to contaminant prevention and under the
22 Environmental Protection Act, the Northwest Territories
23 EPA, for abbreviation. And the primary goal of ENR's
24 strategies is to ensure an equivalent level of
25 environmental protection throughout the territory.

1 An abbreviation of our recommendations
2 here, just to start off, we provided seven (7). One (1)
3 was in respect to leachate modelling and monitoring, and
4 we tacked in land farming with that since it did come up
5 in some of the technical discussions.

6 Secondly, the operations and maintenance
7 plan for the solid waste facility.

8 Third, interim abandonment and reclamation
9 planning.

10 Fourth, adaptive management.

11 Five, hazardous waste management.

12 Six, off-site disposal of sewage sludge.

13 And, seven, a technical working group.

14 So due to the location of the landfill and
15 it's in or in proximity directly to a ravine, and it's
16 proximity as well to the Slave River, it's understandable
17 that leachate monitoring and management is a priority in
18 many mines to prevent contamination of the surrounding
19 environment.

20 Various consultants, as we've seen, have
21 collected groundwater data from the landfarm and landfill
22 area over the years. Through our assessment, it's been
23 demonstrated that the groundwater monitoring has
24 supported the conclusion that the solid waste facility is
25 generating leachate and is impacting the groundwater, and

1 apparently the stream water as well at the site.

2 The current groundwater monitoring
3 strategy that's proposed appears to apply the Alberta
4 landfill code of practice parameters and thresholds for
5 leachate. However, we have not seen really rationale for
6 the reference, adoption, and use of those standards, and,
7 frankly, not demonstrated as relevant to this site that
8 we see at this point in time, and, hence, should be
9 questionable.

10 The rationale for the location of the
11 groundwater well installations we have not found yet
12 either as a clear understanding of the local geological
13 and hydrogeological conditions, is, by standard practice,
14 really required to make any form of conclusion.

15 Delineation of the local geology and
16 hydrogeology is critical to determine a path forward.
17 This information also helps to validate any monitoring
18 programs that may or may not be implemented to establish
19 and determine risk if it's appropriate to do so, and,
20 subsequently, that would be used if required to establish
21 any meaningful mitigation strategies.

22 In summary, really it does not appear at
23 this time, in our view, that it's possible that a current
24 examination of the data from the monitoring wells can be
25 extended to draw conclusions on the extent of leachate

1 migration for the site or to provide a comparison of
2 contaminants to leachate and establish two (2) ba --
3 establish background levels, pardon me.

4 It hasn't been performed practically that
5 we can see without a clear understanding, that is, the
6 pre-mentioned geological and hydrogeological conditions.
7 In respect to the application, for example, of Alberta
8 codes, it's standard geology, and hydrogeology is the
9 most important criteria considered initially for a
10 landfill design siting, and any potential leachate
11 transport characterization measures, collection, and
12 measures taken to prevent water infiltration.

13 So, hence, given these -- this general
14 overview we provided of what we found, we've recommended
15 that water and leachate modelling and monitoring plan
16 that's more specific, tailor-suited to the site, seems
17 reasonable. That might be deemed required for the
18 monitoring of potential mitigations that may potentially
19 reviewed for the facility in the future and help to prove
20 that they're applicable and practical.

21 In order to accomplish this, we've also
22 put forward that to delineate the local geology and
23 hydrological information. That's Bullet 1 I have, and --
24 and generally just to not raise a fire alarm for anybody,
25 it's recognized that in a lot of the information reports

1 that has been supplied to date that it's very possible a
2 lot of that information is available within the existing
3 reports and it just hasn't been assembled in a manner in
4 which might be more practical for use.

5 Ultimately, the most proactive manner in
6 which to mitigate leachate, landfill gas generation, et
7 cetera, which is very common from these types of historic
8 facilities, is to reduce the volume of water and
9 biodegradable organic material that enters a facility.
10 Hence the hydrogeologic -- geotech -- or, geologic --
11 excuse me, information would enable an evaluation of the
12 mitigative measures to divert water entering the site if
13 that was deemed possible.

14 This information would also help
15 facilitate the use of any practical progressive
16 reclamation techniques that may be able to be developed
17 for the facility. In turn, that can be used in
18 combination with the operation and maintenance plans that
19 are developed for the facility and it helps to facilitate
20 any potential closure and reclamation plan.

21 Also, a valid suite of parameters for
22 leachate monitoring should be established if it's going
23 to continue to be monitored, that, again, are
24 demonstrated as practical and applicable to this facility
25 in the circumstances of the facility.

1 And also, in order to help facilitate this
2 we've also recommended that some form of technical
3 working group, for lack of a better term, whatever you'd
4 like to call it, be established to help provide
5 consolidated advice to the Town and the Board to help
6 establish what is practical for this facility and to --
7 what steps would work forward.

8 We noted that in the -- the Town's
9 response to one (1) of our recommendations it was
10 suggested that this might be duplication. We actually
11 suggest that in fact not. What we're trying to do is
12 actually eliminate duplication and suggest that a
13 consolidated technical and regulatory advice from the
14 various stakeholders would be of value in determining
15 these long-term issues for both the Board and the Town.

16 And this information, I believe, supplied
17 through to the Board and to the group and in consultation
18 with the Town and other stakeholders would ultimately
19 lead to the development of this water and leachate
20 modelling and monitoring plan that we suggest may be the
21 way to go forward.

22 With respect to landfarming at the site
23 there has been presented evidence that the facility is
24 continuing to be used for contaminated soils. That
25 information has been provided through technical -- the

1 technical hearing and spotted in reports here and there.
2 And, however, we have to bring forward that the facility,
3 from what we understand, is not currently designed or
4 licensed for that specific use. It was designed for a
5 different use, that does not mean that it may not be for
6 good use for the Town in the future.

7 However, if there is this evidence that
8 it's continued to be a spot for deposition of
9 contaminated soils that the treatment of hydrocarbon-
10 contaminated soils would generally show up in some form
11 of -- of groundwater monitoring if it was an issue.

12 We note that there was a recommendation
13 and a consultant report to reduce or eliminate that
14 requirement, but based on this information it seems
15 prudent to continue monitoring for that. If it is
16 continued again for the Town of Fort Smith -- or rather,
17 proposed -- excuse me, for the Town of Fort Smith to use
18 this facility in the future it makes sense that
19 additional screening assessment and an authorization is
20 likely to be required, whether or not that's a component
21 of this licence amendment or not we're not sure.

22 But we are aware that there was an
23 application last year specifically for that that we
24 understand was not continued, there was insufficient
25 information. And until such time as that information is

1 provided we really don't have anything further to say.
2 However, if there is a future endeavour to do so we'll
3 provide our expertise at that time.

4 And again, just to reiterate, regardless
5 of that, the monitoring of petroleum indicators should
6 continue as a component of the sampling program if it is
7 deemed that there is indeed hydrocarbon-contaminated
8 soils that continue to be deposited there.

9 With respect to operation and maintenance
10 planning, generally these types of plans are to assist
11 community staff in the proper management of the waste
12 facilities. The current O&M plan that we're aware of was
13 completed in 2004 as part of a previous water licence
14 renewal. And we understand that the Town has committed
15 to revising this and supplying this and, hence, that's
16 what our recommendation was, of course, that that in fact
17 -- plan be updated and submitted to the Board for
18 approval.

19 The Town should also consult, as we've
20 recommended, the MACA guideline for planning, design,
21 operations, and maintenance of modified solid waste sites
22 in the Northwest Territories. And there's also
23 guidelines for preparation of operation and maintenance
24 manual for sewage and solid waste disposal facilities.
25 In developing that plan, it's an excellent source and it

1 would probably provide some -- some good direction with
2 respect to how to proceed.

3 Also, we suggest that the O&M plan should
4 consider integrating the following precautionary
5 procedures, which as well we see today the Town appears
6 to have also picked up on and has committed to waste
7 reduction recovery methods eventually being integrated
8 into the facility operations, Town operations.

9 And we've also put forward this
10 specifically, and we did notice the Town had mentioned
11 composting. Ultimately, reducing the biodegradable
12 organic entering the landfill is going to have a
13 significant impact on both the operations of the
14 facility, and a reduction of potential leachate that may
15 be generated at the facility. In fact, reducing organic
16 biodegradables generally reduces masses of the landfill
17 by 40 to 50 percent.

18 And once that plan is developed, ENR
19 recommends it's made available to any staff, operators,
20 or contractors performing any functions related to the
21 management of the facility and, of course, that that plan
22 is followed.

23 We also recognize that the Town has
24 committed to an abandoned reclamation plan. We noted the
25 question with respect to whether it was interim or final.

1 It's projected that the application right now, and his --
2 historical expansion rates at the landfill, that its
3 capacity would be for approximately the next twenty (20)
4 years, and beyond that, and that preparation of the
5 remediation following closure would commence at that
6 time.

7 That's the information we got in the
8 information package that came through. We recognize,
9 subsequently, it -- it looks to be altered somewhat.

10 So the closure and reclamation plan right
11 now for the current facility is not in place, but again
12 we note that it's required in the water licence for
13 approximately at least six (6) months prior to closure of
14 a facility.

15 As I said before, we suggest that, for the
16 sake of discussion, at least here, the terms abandonment
17 and restoration, and closure and reclamation, mean the
18 same thing.

19 The early stages of closure and
20 reclamation plan, you know, are recognized generally as
21 standard steps across landfill management in the country
22 at this time to ensure that the stakeholders and the
23 community is thinking, preparing, and planning for the
24 facility's ultimate end use. And it's also relevant in
25 this case as it's questionable perhaps what the length of

1 clearly state the -- the types of hazardous waste that
2 are accepted from these sectors, and which are not.
3 Again, it's recognized the Town had -- had mentioned this
4 actually within its presentation today, that it's -- it's
5 working on this.

6 For -- for example, and it's relevant here
7 to this discussion, hydrocarbon-contaminated soils or
8 asbestos, et cetera, may be accepted from the ICI sector,
9 whereas solvents, pesticides, corrosive liquids, et
10 cetera, would not be accepted by the ICA (sic) sector but
11 may be accepted by residents as household hazardous waste
12 collection events.

13 So in order to clarify what the operations
14 are, what materials are going in and out and to help
15 manage that on site, ENR has recommended that Fort Smith
16 develop a comprehensive hazardous waste management plan
17 that clearly states which materials would or would not be
18 accepted at the facility and from which sector and
19 include details also on the types of household hazardous
20 waste collection.

21 ENR has developed a draft document right
22 now specifically to help in development of these types of
23 plans called Developing a Community-Based Hazardous Waste
24 Management Plan. And we recommend that that could be
25 used for the development of the plan for this process.

1 The off-site disposal of sewage sludge
2 originating from the treatment cells of the lagoon
3 system, ENR notes, is not currently included as a term or
4 condition in the existing water licence and it's not
5 specifically applied for as a new activity in the current
6 application.

7 Hence, it's ENR's understanding that the
8 disposal of this material off site would require
9 additional assessment and amendment to the existing water
10 licence. And we're working on the assumption right now
11 that it's outside the scope of this process.

12 However, it has come to our attention that
13 this issue has come up through the review of some of the
14 consultant reports and in the technical session that the
15 decanting and off-site disposal sewage sludge may be
16 occurring on a periodic basis. It's originating, I
17 think, from the primary lagoon treatment cells and may
18 again occur in the future.

19 Sewage sludge, particularly untreated and
20 unstabilized sludge, is a highly variable mixture of
21 domestic sanitary wastes that may include other
22 discharges from industrial, hospital, laboratory, road
23 runoff, et cetera, and may contain toxic metals,
24 antibiotic-resistant bacteria, pesticides, priority
25 pollutants, et cetera, and those risks should be assessed

1 accordingly.

2 So, hence, ENR's recommended that if the
3 deposit or discharge of this sewage sludge is to be
4 proposed that it should be subject to additional
5 screening and assessment for an authorization, whether,
6 again, it's part of a current water licence amendment, we
7 wouldn't know that, but it should be a separate process
8 as it hasn't been applied for and it's not currently in
9 the current licence. And if that's the case, we would be
10 more than willing again to provide expertise to
11 facilitate any of that process at that time.

12 And that, again, leads into another
13 overarching recommendation that we've made that's not
14 necessarily intended as inclusion as a term and condition
15 in the water licence. I think it's more for the benefit
16 of the Town, the Board, the Board staff, the other
17 stakeholders, that given the related technical issues and
18 the expertise required, the costs associated with that,
19 and evaluating various components of this water licence,
20 whether it's leach -- leachate monitoring or whether it's
21 required or not, landfarming, sludge removal, disposal
22 off site, that it would be practical to have some form of
23 technical working group specifically for the purpose of
24 facilitating and providing -- providing a coordinated
25 approach to the review and provision of this advice on an

1 ongoing basis.

2 And this could or could not be for the
3 duration of the water licence, but at least for some of
4 these outstanding issues right now we think it'd be very
5 practical and useful for all the parties involved,
6 specifically for the Town and the regulatory review
7 phases of subsequent processes or just simply for the
8 development of reports, monitoring programs, et cetera,
9 on an ongoing basis.

10 And ENR, of course, is -- is willing to
11 help contribute its resources where it can to help
12 facilitate that as well. And that's the presentation.
13 Thank you very much, Mr. Chairman.

14 THE CHAIRPERSON: And thank you for that
15 very informative presentation. So we will now go to
16 questions to ENR, and starting with the Town of Fort
17 Smith.

18

19 (BRIEF PAUSE)

20

21 QUESTION PERIOD:

22 MR. JEAN SOUCY: Jean Soucy from the Town
23 of Fort Smith. We currently don't have any questions at
24 this time.

25 THE CHAIRPERSON: Okay.

1 MR. MICHAEL STEED: Michael Steed. I --
2 I just have one (1) question on the technical working
3 group as to who would be a part of that, or who -- what
4 would be recommended of which parties to be involved in
5 that? And what would the relationship of this working
6 group be in regards to the Water Board and -- and the
7 Town in that relationship? How would it work with the
8 relationship between the Board and the Town?

9 THE CHAIRPERSON: Okay. Thanks for the
10 question. We'll put that to Todd. And I'm not too sure,
11 Zabey, if you wanted to answer the second part of that
12 question.

13 MR. TODD PAGET: Todd Paget, ENR.
14 Well, it's logical to recommend that
15 obviously the critical stakeholders would be directly
16 involved, there should be a terms of reference to clearly
17 identify the roles of the group and what the expectations
18 are. Subsequently, how it works in and out of the
19 regulatory processes or not I don't know -- couldn't tell
20 the future on that. But it's, again, maybe something
21 Zabey could -- could qualify.

22 But generally some kind of more formal
23 group, again, that is selected. And for the benefit of
24 the Board, staff, regulatory stakeholders, they should be
25 there. It should be very clear what the interests are of

1 the individuals, and subsequently provide consolidated
2 information, whether or not that's used directly or
3 indirectly to Water Board processes and whether or not
4 the Board wishes to facilitate such a group, that would
5 be up for discussion, I'm sure.

6 THE CHAIRPERSON: Thanks for that, Todd.
7 Anything further from the Board?

8 MR. ZABEY NEVITT: Zabey Nevitt with the
9 Board. Just to comment on the use of technical working
10 groups in general, the Board's, within sort of the last
11 five (5) to ten (10) years, have used technical working
12 groups in various situations. The DIAVIK technical group
13 was one (1) example, there have been examples under the
14 BHP as well. I don't think we've actually had a standing
15 technical group for any municipal water licences in the
16 last number of years.

17 The Board, sort of, generally tried to use
18 technical working groups for specific issues. We're not
19 -- we haven't got any standing technical working groups
20 at this time. But as part of our ongoing, sort of,
21 regulatory review of all matters before the Board, we
22 would consider them, I think, on an issue by issue basis
23 and on a file by file basis. So I -- I'm not sure
24 whether -- you know, not to speak on what the Board will
25 decide at any time, but that's been the approach in the

1 past, it's just been on an issue by issue basis.

2 THE CHAIRPERSON: Okay. Thanks for
3 that. John, did you want to add anything. Is there an
4 arms-length problem that you would see?

5 The Board itself, of course, doesn't get
6 involved in the technical groups, that's strictly
7 Executive Director and staff.

8 MR. JOHN DONIHEE: John Donihee, Board
9 counsel. Not -- not much to add beyond what Mr. Nevitt
10 has said. I think it's going to put me out of turn, but
11 I do sort of have a question and maybe it's just as well
12 the -- to ask Mr. Paget to -- to respond to it now.

13 And that really is just, what -- what do
14 you envision that, you know, would be the subject matter
15 to be addressed by such a working group?

16 And -- and really, how do you envision or
17 -- or what benefits would you anticipate might result
18 from using a -- a working group as opposed to the Board's
19 general practice of just working through issues like this
20 in licence management with the -- the licensee and the
21 interested parties?

22 THE CHAIRPERSON: Thanks, John. I guess
23 that's a question of -- for Todd, or -- yes...?

24 MR. TODD PAGET: Thank you, Mr. Chairman.
25 Todd Paget, ENR. Yeah, in fact, that's a good question.

1 We put it forward primarily on the basis of a lot of
2 discussion about the groundwater monitoring and how this
3 would be dealt with. We think it's a very technical
4 issue right now, it is probably not able to be resolved
5 today.

6 If it was accepted by the Town and the
7 Board, for example, to put together what we consider a
8 more appropriate study to get the baseline information of
9 what's happening at the facility that group would, I
10 think, help to facilitate that process in a manner which
11 is more accommodating, probably, to the expertise that's
12 required to look at it.

13 The Board processes right now, while
14 clearly useful, do have challenges with the amount of
15 information supplied, the time basis, and the amount of
16 time that's allowed to provide recommendations to it.
17 And it also is difficult to coordinate with the other
18 regulatory bodies in the Town, and Board staff, et
19 cetera, in a timely manner to -- to help work out a lot
20 of these issues beforehand.

21 So by, I think, doing this in this manner
22 instead of, for example, having frankly three (3) or four
23 (4) days to review technical reports, which is often the
24 case, I mean, we could have an opportunity to review them
25 in a consolidated manner in consultation with other

1 groups appropriately, and develop practical
2 recommendations, solutions, and -- and pass forward
3 almost on a consensus basis.

4 So that would be one (1) example for the
5 leachate monitoring. And I'd state, as well, because the
6 issues of historical landfill sites, solid waste sites
7 here, is not something that's just the Town of Fort
8 Smith. I mean, this is clearly an issue that's across
9 the territory, and it's not necessarily going to be
10 solved for Fort Smith in their water licence. So there
11 may be crossover into other aspects of that discussion
12 that may be useful, as well.

13 Other related topics on your question 1, I
14 guess, would be for example the landfarming issue, and --
15 and how that would work through, and establish, and --
16 and what parameters, et cetera, where conditions would be
17 appropriate for the Town to develop for its proposal for
18 its application. We could help facilitate that, I think,
19 through a more coordinated process prior to submissions
20 so that it expedites the process.

21 And for example, sewage sludge dredging
22 and off-site disposal. This is an issue that's actually
23 being looked at nationally right now in Canada by a CCME
24 biosolids task group. And there's quite a few concerns,
25 impacts, et cetera, questions that are being looked at

1 regarding this, and again it's not something that I think
2 probably could be solved in very short order, and develop
3 something specific for the Town, if -- if they need to do
4 something. Again, I think it would be useful to have a
5 more coordinated consolidated approach.

6 THE CHAIRPERSON: Thank you for that
7 explanation. Is there anything further from the Town of
8 Fort Smith?

9 MR. MICHAEL STEED: Yes, Mr. Chair. It's
10 Michael Steed. I just was wondering if I could get a
11 clearer definition on the term that they're using,
12 leachate. As typically seen, leachate is the liquid that
13 percolates through the waste, and is within the landfill
14 cell, and is referred to in the presentation and other
15 material as leachate monitoring. And I'm just wondering
16 if that term that they're referring to is monitoring
17 groundwater impacted with leachate, or if it is referring
18 to the liquid that would be within the landfill cell
19 itself. Thank you.

20 THE CHAIRPERSON: Okay. Thanks for the
21 question. Mr. Paget...?

22 MR. TODD PAGET: Yes. Todd Paget, ENR,
23 Mr. Chair. That's an excellent question. You know, for
24 the sake of this discussion here, lac -- leachate as
25 you've said is generally just the terminology that's used

1 that likely would probably be worked out through the
2 technical working group to figure out exactly how to move
3 forward on this site, since it doesn't meet any specific
4 definition that we can find in other legislation or in
5 other standards or codes.

6 THE CHAIRPERSON: Thank you for that
7 explanation, then, Todd. Back to Town of Fort Smith.

8 MS. LINDSAY MCINTYRE: I have a question
9 regarding your recommendation to divert water --

10 THE CHAIRPERSON: If you could just
11 identify your -- yourself, please.

12 MS. LINDSAY MCINTYRE: Oh, sorry.
13 Lindsay McIntyre with the Town of Fort Smith. In regards
14 to a recommendation to diverting water off the landfill
15 site, we don't have a lot of overland waterflow across
16 the landfill site that ends up in the surface water. So
17 what drives that recommendation exactly?

18 THE CHAIRPERSON: Thank you. Back to
19 you, Todd.

20 MR. TODD PAGET: Todd Paget, ENR.
21 Without referring specifically, I think -- are you
22 referring to the written intervention? Okay. I think
23 what we suggested is that, actually, that may be
24 potentially a solution to whatever results come out of
25 the assessment. We haven't yet again seen presented what

1 we would consider to be a modern geotechnical and
2 hydrogeotechnical analysis, which generally integrates
3 surface flow patterns and infiltration rates. So,
4 barring having that information, it's very difficult for
5 us to say whether there is or is not water going into the
6 facility from outside, and to be able to make an
7 assessment on that. But once that is made available, at
8 that time, the Town could use that information to
9 determine whether or not that would be an effective
10 mitigative measure.

11 I think, ultimately, that has to be
12 determined by having the first information first. It's
13 kind of -- you have to dot your Is before you connect the
14 dots type thing, so making recommendations on mitigative
15 measures without really having a clear direction of where
16 you're going or the case baseline of the facility doesn't
17 really make sense. I think we qualified it in our
18 recommendations that that may help that if it's deemed
19 required in the future.

20 THE CHAIRPERSON: Okay. Thank you.
21 Further from Town of Fort Smith...?

22 MR. JEAN SOUCY: Jean Soucy, Town of Fort
23 Smith. The Town would likely reserve the right to -- to
24 have their own technical group, if you will, as opposed
25 to a technical working group, so that we can identify and

1 further the plans that are in place. But I think a
2 technical working group would not benefit the Town of
3 Fort Smith as it stands.

4 THE CHAIRPERSON: Thank you. Any
5 response to that, Todd?

6 MR. TODD PAGET: Todd Paget, ENR. I'm
7 not sure if that was a question. I think it's just a
8 statement, right? So no need to respond.

9 THE CHAIRPERSON: Anything further from
10 Town...?

11 MR. JEAN SOUCY: Jean Soucy, Town of Fort
12 Smith. No further comments.

13 THE CHAIRPERSON: Okay. Thank you both
14 for that, then. We will now go to Environment Canada for
15 a question.

16

17 (BRIEF PAUSE)

18

19 MS. SARAH-LACEY MCMILLAN: It's Sarah-
20 Lacey McMillan with Environment Canada. We don't have
21 any questions at this moment.

22 THE CHAIRPERSON: Okay. Thank you. Go
23 to Aboriginal Affairs and Northern Development Canada.

24 MS. JEANNE ARSENAULT: Jeanne Arsenault
25 for AANDC. No -- no question at this time.

1 THE CHAIRPERSON: Thank you. Registered
2 speakers, general public, any comments? I'll go to Board
3 staff, then. Doctor...?

4

5 (BRIEF PAUSE)

6

7 MR. JOHN DONIHEE: It's John Donihee,
8 Board counsel, and not Dr. Racher. I just have two (2)
9 mandate -- just sort of mandate-type questions that may
10 be better to -- to get taken care of first, before
11 Kathy's questions.

12 The first one relates to just, you know,
13 some of the -- the comments you made in relation -- in --
14 in response to my earlier question about the technical
15 working group. And I'm wondering if you could just
16 clarify for the Board, you know, what, say, ENR and
17 perhaps even Government of Northwest Territories' role or
18 mandate might be in relation to solid waste management?
19 I mean, do you have a regulatory role under the
20 Environmental Protection Act?

21 Do you have programs ongoing where you're
22 directly involved with the -- the Town of Fort Smith on
23 these matters, or is the water licence your vehicle to
24 get the kinds of things that you've been suggesting to
25 the Board taken care of?

1 THE CHAIRPERSON: Thanks, John. Over to
2 you, Todd.

3 MR. TODD PAGET: Thank you, Mr. Chair.
4 Todd Paget, ENR. To set the case first, I guess, to be
5 clear, we understand, of course, that the licensing of
6 these facilities is done under federal legislation, the
7 Northwest Territories Waters Act. That process is a
8 federal process, and we understand that it's the policy
9 and it's deemed to be in the interest of all regulators
10 in the territory to avoid duplication.

11 So we do apply our resources to help out
12 this process, to help facilitate the licensing and
13 subsequent mitigative measures here today, for example,
14 with the solid waste facility to the best of our ability
15 to help that process to be the vehicle.

16 So our concentration today is on those
17 types of issues that are in the water licences that we
18 can provide input and technical expertise to. And that's
19 for the benefit, again, of avoiding duplication and
20 helping provide solid technical advice to the Town and to
21 the Board for this process.

22 That being said, yes, of course, ENR does
23 have a mandate for environmental protection, contaminant
24 prevention. We do have programs that by policy are
25 applied to where GNWT has administrative authority, which

1 is generally within commissionaire's lands, and generally
2 that includes a lot of activities within the
3 municipality.

4 So we have a lot of guidance documents and
5 programs that we divide specifically to help give
6 direction with respect to how to prevent the discharge of
7 contaminants. For example, our hazardous waste program.
8 We are working with Fort Smith, with other communities,
9 and giving solid advice, we feel, with respect to how to
10 manage household hazardous waste in a manner to prevent
11 contaminants from getting into the environment, along
12 with other programs that Diep could perhaps speak to that
13 help facilitate that.

14 But they're not regulations. They're not
15 regulatory permits or authorizations. They're guidance
16 generally with respect to maintaining the context of
17 contaminant prevention and the more, again, specific
18 technical issues for the water licence we bring up here.

19 MR. JOHN DONIHEE: Thank you, Mr.
20 Chairman. John Donihee. My -- my second question is
21 somewhat similar.

22 I'm just wondering if the Government of
23 Northwest Territories has any protocols or arrangements,
24 and this is in relation to the sewage sludge issue that
25 has been raised, and whether you have any protocols or

1 arrangements in place for the Government of Alberta to
2 cover cross-border transfer or disposal of waste like
3 sewage sludge?

4 THE CHAIRPERSON: Thanks, John. Over to
5 ENR.

6 MR. TODD PAGET: Todd Paget, ENR. No, we
7 don't. And, again, I would just remind the Board that
8 the issue of licensing sewage lagoons water is a water
9 licence issue under federal legislation. The terms and
10 conditions for managing that waste, we understand, are
11 within the water licences for -- for those facilities.

12 We don't have any authority in that
13 process other than, again, what we present here, to help,
14 and subsequent to that, maybe to help if it's an issue of
15 transboundary transport of waste. I believe that is also
16 federal jurisdiction.

17 THE CHAIRPERSON: Thank you. Further,
18 John...?

19 MR. JOHN DONIHEE: No, thank -- thank
20 you, Mr. Chairman.

21 THE CHAIRPERSON: And further from the
22 Board...?

23 MR. ZABEY NEVITT: It's Zabey Nevitt,
24 with the Board. I just had two (2) quick questions for
25 you on the sewage sludge issue. You mentioned the CCME

1 biosolids task group. I just wondered if they had
2 produced or were in -- in the process of producing any
3 guidelines or guidance documents for -- on this issue or
4 if you were aware of any other form of guidance or
5 guidelines specifically on this issue that would be of
6 value for either the Town or the Board.

7 THE CHAIRPERSON: Over to ENR.

8 MR. TODD PAGET: Todd Paget, ENR, Mr.
9 Chair. I actually sit as an observer for ENR on the task
10 group, on the CCME. I believe other federal departments
11 have representatives as well that may be more active.
12 Again, we're an observer.

13 There has to be maybe a clarification of
14 context again. The biosolids group is put forward with
15 respect to managing treated biosolids, which generally
16 are -- they're not the same as raw sludge that comes out
17 of a lagoon. In fact, I don't believe the definition
18 extends to sludge from lagoons.

19 However, there is discussion about if
20 there should be harmonization, and whether or not it
21 would apply to that within those discussions. And
22 they're projected to have a draft -- or, excuse me, they
23 were projecting to have a guideline for the best use of
24 these biosolids ready for fall of 2011, I believe, this
25 year. So there's a draft right now. It has not been

1 released.

2 It may be able to help in -- in this
3 circumstance; it may not. It's definitely a good source
4 of information that would help probably provide a lot of
5 context and background, cover some of the environmental
6 concerns, technical aspects of it that would be useful
7 for the discussion here.

8 But, again, the issue of dredging out
9 sewage sludge from lagoons is not something that's
10 generally addressed anywhere that we can see. It's --
11 it's not an -- very often something that's brought up.
12 Generally, sewage sludge in lagoons, that is the final
13 resting place for it. So if there's a requirement to
14 start dredging out a lagoon for operation maintenance
15 requirements, fair enough. That may be a requirement,
16 but I think one has to ask other questions, if there's
17 process issues, whether or not the lagoon has fulfilled
18 its capacity, et cetera. It probably would have to be
19 asked before you start talking about what to do with the
20 solids.

21 THE CHAIRPERSON: Thank you. Back to the
22 Board.

23 MR. ZABEY NEVITT: Okay. Thank you.
24 Zabey Nevitt with the Board again. One (1) more
25 question. I believe -- I hope I'm not going to misquote

1 here -- that this morning in their presentation, the Town
2 proposed that they would -- they could develop a sewage
3 sludge management plan. I -- I believe that was a part
4 of the presentation this morning.

5 If that was provided to the Board with
6 sufficient detail and info, and it was made as a
7 condition of the licence for approval, would ENR feel
8 that that would be the kind of regulatory supervision
9 that you like to see in place to -- to ensure the
10 effective and -- the kind of detail you'd like to see to
11 cover off this issue?

12 THE CHAIRPERSON: Thank you. Back to
13 ENR.

14 MR. TODD PAGET: Todd Paget, ENR, Mr.
15 Chair. Again, I think, to qualify the issue here, we
16 have taken issue with the off-site disposal of the
17 solids, not the management of the sewage lagoon and the
18 facility itself. We feel that the taking away of sewage
19 sludge from the facility for off-site disposal is not in
20 the context of how the facility is designed, how the
21 lagoon is designed.

22 In the water licence, there's specific
23 criteria for water treatment, assuming that the biosolids
24 stay on site. It's through your primary, your secondary
25 process. If you're taking sludge out of the primary

1 have any. Sorry, it's Diep Duong from ENR.

2 THE CHAIRPERSON: Thank you.

3 MR. TODD PAGET: Todd Paget, ENR. Sorry.
4 And just to help out with that, too. Again, to
5 reiterate, in case we go down this path again, the
6 landfill licensing process again in the territory is done
7 under the Northwest Territories Waters Act, and -- and
8 that speci -- that's done by federal agencies. And right
9 now the jurisdiction for groundwater and surface water
10 and related waste and contaminant issues is under that
11 jurisdiction.

12 So until such time as that, or at least I
13 understand, may or may not be transferred to a GNWT, or
14 in part with a partnership of other groups. We're not in
15 a position to be drafting those guidelines presently.

16 It doesn't mean it wouldn't happen in the
17 future, but right now -- that explains why we wouldn't
18 have them right now, and why we work through with this
19 process.

20 DR. KATHY RACHER: Okay. Kathy Racher
21 for the Board. Right, I -- I understand that. You do
22 have guidelines for a number of things to do with waste,
23 which is why I asked the question.

24 And in your intervention you've quoted the
25 Alberta Codes of Practice that exist for landfills, and

1 included those in your intervention. And I'm a little
2 confused. Like sometimes you've quoted it and said, you
3 know, the -- the Town has exceeded certain limits in the
4 Alberta code, and then other times you say that the --
5 the code isn't applicable.

6 And I'm just sort of not sure whether, you
7 know, should we be looking at these codes of practice as
8 -- as useful in -- in at least some respects of landfill
9 management, or should we just be tossing them out because
10 of -- of some reason that I'm not clear on?

11 MR. TODD PAGET: Mr. Chairman, Todd
12 Paget, ENR. Yeah, it's an excellent question. In fact,
13 the reason why we brought it up is because it was
14 referenced in the reports that were supplied in support
15 of the water licence. And it was I believe being
16 recommended within reports to use certain parameters and
17 thresholds in those Alberta guidelines and codes. And we
18 actually -- what we were trying to do was point out that
19 they're often contradictory to this facility, and the
20 operations there, and are not necessarily applicable.

21 To clarify again, the Alberta Code of
22 Practice which was specifically referenced in the
23 Application and reports is designed specifically for
24 lined landfills that have leachate collection and
25 treatment systems. And the parameters in that code are

1 specifically for the purpose, from what we understand and
2 my understand -- my understanding, rather, with discourse
3 with Alberta Environment is to detect potential leachate
4 coming out of those systems.

5 So -- and -- and as soon as there is
6 leachate detected under Alberta criteria, it's required
7 to intervene immediately and have a groundwater
8 protection and treatment plan. So to recommend Alberta
9 criteria that are being exceeded as it's shown in the
10 reports, we're not clear on how that makes sense here
11 because nobody's going in there and is going to stop
12 leachate right now, and -- and require leachate
13 treatment. So the applicability of those thresholds
14 should be questioned.

15 Whether or not they're applicable or not,
16 I -- again, that feeds into our recommendation of -- of
17 having a discussion on that to determine what methods,
18 what procedures, and, frankly, any projected plans are
19 for the facility, and integrate that into that
20 discussion.

21 I mean, we did supply, as well, of course,
22 with our intervention the federal government groundwater
23 quality guidelines that seemed actually more relevant
24 because they have been designed for northern conditions.
25 They have been designed in the context of legacy

1 potential contaminated sites that have unknown sources,
2 unknown histories, et cetera.

3 And they do reference the same CCME
4 criteria that's often referenced in the reports, but in
5 the context of applying it to a northern unlined
6 contaminated site. So they seem to be more relevant.
7 And I'm not going to suggest here that they be picked,
8 and cut, and pasted either into any kind of monitoring
9 program. I think that would have to be determined
10 specifically sitting down and -- and figuring that out.
11 And I don't think we could confidently do that here
12 today.

13 DR. KATHY RACHER: Kathy Racher for the
14 Board. Okay. I think I got it. No, that's very
15 helpful. Thank you, Todd.

16 In your intervention, I -- I mentioned
17 this when I was questioning the Town, you have stated
18 that:

19 "It's evident based on elevated
20 concentrations of several parameters in
21 downgradient samples that leachate is
22 impacting the stream water."

23 When I was questioning the Town earlier, I think we
24 discussed that there was -- there's no real true baseline
25 for either the upgradient or the downgradient groundwater

1 monitoring sites. Both of those locations were -- have
2 only been sampled since the landfills been in operation.

3 I -- I don't think -- I think in the AECOM
4 2011 report they assumed that the upgradient site would
5 be a background. I -- I don't absolutely know that that
6 -- that's an accurate assumption. Most of -- most
7 guidance, like the Alberta Code of Practice, which as
8 we've discussed may or may not be useful, it usually says
9 get -- get background information before the site is
10 built and use that information to set your -- your
11 performance standards for when -- basically when you need
12 remediation or not.

13 And -- and as we talked about this morning
14 there's -- there is no discernible trend through time
15 increasing -- of increasing parameter for any parameter
16 in either the surface water or the groundwater.

17 So I'm just -- I just wonder if you could
18 qualify what you -- what you mean by impacting stream
19 water or impacts to groundwater and -- and differentiate
20 or distinguish between an impact and effect --
21 environmental effect, et cetera?

22 THE CHAIRPERSON: Okay. Thanks for
23 that, Kathy. Back to ENR.

24 MS. DIEP DUONG: Thank you, Mr. Chair.
25 This is Diep Duong with ENR. The statement that we made

1 is actually a -- somewhat of a quote from the AECOM 2011
2 report. And the statement says that the majority were --
3 sorry.

4 "Of the elevated parameters of those of
5 greatest concentration, the majority
6 were observed within downgradient
7 groundwater."

8 And further down in the -- sorry, on page 7 of the report
9 it says:

10 "Based on the elevated concentrations
11 of a whole suite of parameters combined
12 with the increase concentration of the
13 sulfate, chloride, sodium, the
14 downgradient samples, it is possible
15 that the leachate could be impacting
16 the stream water."

17 So whether or not we have a -- an
18 appropriate upgradient well the downgradient wells are
19 already, I guess, higher than the upgradient wells, right
20 -- is what basically the report is saying.

21 MR. TODD PAGET: Todd Paget, ENR. And I
22 believe actually the other three (3) reports too, the
23 2001, 2006 and the wetlands study also made comments
24 about im -- impacts of leachate to groundwater.

25 The extent of those effects for -- I think

1 was kind of part two of your question. Again, I don't
2 think we can make that call right now. And we go back to
3 our recommendation that a proper characterization of the
4 site, I think, is required before you can move that way.
5 And -- and frankly, doing excessive monitoring of
6 anything until that's done is questionable.

7 THE CHAIRPERSON: Okay. Thank you.
8 Further from the Board...?

9 DR. KATHY RACHER: Kathy Racher from the
10 Board. Thank you. That was helpful.

11 So I just have two (2) more questions.
12 First of all, given what you've brought up and -- and
13 what the Town has said there is some confusion about what
14 to sample, when to sample, what protocols to use -- this
15 is all with respect to groundwater monitoring in
16 particular -- what parameters to measure, what
17 performance standards to use?

18 Do you think it's prudent to have the Town
19 continue to just do the -- the groundwater monitoring
20 that's in the SNP, or should we -- should -- I'm just
21 exploring the possibility that maybe it's not appropriate
22 to assign that SNP monitoring as is to the Town, and that
23 it's more appropriate to have some sort of groundwater
24 monitoring plan or whatever -- kind of, or leachate plan
25 or whatever you want to call it, every -- everybody's

1 called it something different at -- at this stage -- and
2 have that done for the Town. So a very site-specific
3 plan designed for this site, and -- and to replace the
4 current SNP requirements for groundwater monitoring.

5 THE CHAIRPERSON: Back to ENR.

6 MR. TODD PAGET: Todd Paget, ENR.

7 Yeah. And, again, I go back to our
8 recommendation. We think you have to have a plan first
9 before running an extended monitoring program. I -- it
10 hasn't been demonstrated, again, to our knowledge yet
11 that the current plan is a plan. We don't know what the
12 end points are, where it started, where it's going. And,
13 hence, does it make sense to keep doing this? That's a
14 good question.

15 We're not prepared here today to say
16 specifically what stations or not should be on or off, or
17 what parameters should not -- should not be off. And
18 frankly, again, that's why we recommended a technical
19 working group for this to try to figure this out. I
20 can't just for the life of me right now say what you
21 could do right now.

22 Logically, if you were going to continue,
23 it makes sense to look at the known issues that may be
24 with the site. We know we potentially have hydrocarbon -
25 contaminated soils. There's specific parameters that are

1 of whether or not indicators are rising or lowering based
2 on the present data can provide justification for that
3 conclusion.

4 DR. KATHY RACHER: Kathy Racher, for the
5 Board. Okay, thanks. I did see the train coming back,
6 so it's good. One (1) more question. This is to do with
7 the closure plan.

8 You said in your presentation today that
9 the requirements for closure planning for landfills is
10 sort of a -- you -- I think you said something about it
11 being sort of a standard across the country. And the
12 only place I -- I looked was actually in the standards
13 for landfills in Alberta, which was provided by ENR.

14 And in there, it only requires that a
15 final detailed closure plan be submitted a hundred and
16 eighty (180) days before implementation, and there's no
17 requirements for interim plans.

18 And I'm just -- so I'm just wondering why
19 the higher standard recommendation really for the Town of
20 Fort Smith and, as well, what time frame were you
21 thinking of for a submission for an interim or final
22 closure plan?

23 THE CHAIRPERSON: Back to ENR.

24 MR. TODD PAGET: Todd Paget, ENR.

25 Actually, I think, interestingly enough, I was prepared

1 for that question. We actually have a couple references
2 pulled out. And if you give me time, I'll pull it out.
3 But -- but actually in the standard that accompanies the
4 code of practice interim closure and abandonment planning
5 is required, from what I understand.

6 We could pull out that reference, and it's
7 very similar to the wording that we used with respect to
8 reclamation progressive -- or rather progressive
9 reclamation strategies, and it being the foresight into
10 how you are going to end up closing the site and how it
11 feeds into the ultimate end closure plan.

12 So I'd have to double-check, but I'm
13 pretty sure actually it is a requirement in -- in the
14 standard, and we'll pull out that reference for you if
15 you'd give us a few minutes.

16 DR. KATHY RACHER: Kathy Racher, for the
17 Board. You -- you don't actually need to do it right
18 now. I'd say you'll have an opportunity to provide
19 written closing comments. And if you could make that
20 clarification there, that would be helpful.

21 Mr. Chair, I'm -- I'm finished with my
22 questions.

23 THE CHAIRPERSON: Okay, thank you. I
24 thought you were just getting started, but, okay. We'll
25 go on to Floyd Adlem.

1 MR. FLOYD ADLEM: I just have one (1)
2 question, Mr. Chair. In the -- the operation and
3 maintenance plan you mentioned the guidelines for
4 preparation of operating maintenance plan manual for
5 sewage and solids waste disposal facility in the
6 Northwest Territories.

7 Is there anything in there about
8 incineration?

9 MR. TODD PAGET: Mr. Chair, Todd Paget,
10 ENR. No, not incineration. I guess we'd have to qualify
11 what you mean. I mean, if you're talking about
12 incineration meaning an actual incinerator, no. I
13 believe it does include the same reference actually that
14 the Town referred to this morning. ENR's policy, and I
15 believe it's also in the MACA guideline, is that the open
16 burning of waste is excluded only to clean paper, wood,
17 and cardboard. And I think that's the only reference
18 you'll find to incineration or burning in that document.

19 THE CHAIRPERSON: Okay. Thank you. That
20 -- further, Floyd...?

21 MR. FLOYD ADLEM: No further questions.

22 THE CHAIRPERSON: Okay. Pat...?

23 MR. PATRICK LAROCQUE: No questions,
24 thank you.

25 THE CHAIRPERSON: Keyna...?

1 MS. KEYNA NOWEGIAN: No, no questions,
2 thank you.

3 THE CHAIRPERSON: Okay. And thanks to
4 ENR for your great report, your -- and your offer of
5 help, and your generous offer of your expertise. It --
6 it helped push this forward, and without any legislative
7 authority, but just got to be patient, Todd, that
8 devolution is on the horizon.

9 MR. TODD PAGET: Mr. Chair, Todd Paget,
10 ENR. If I may, then, I guess we're clear to go, but I
11 didn't actually answer the timeline question on the
12 interim closure, and we would be agreeable to what the
13 Town has suggested. I mean, we wouldn't expect it to be
14 a very complicated plan. I mean, it's pretty general, as
15 we listed out.

16 In fact, it is -- reference the type of
17 information in there that could be used as a guide in the
18 Alberta standard as well for the interim plan. So, you
19 know, whether that's six (6) months, a year, I mean,
20 whatever the Town feels appropriate, but the fact that
21 they recognize it's a useful tool I think is -- is a
22 major component in itself.

23 And, subsequent to that, I would also just
24 like, in an afterthought, to provide a response maybe to
25 the comments on the technical working group that was

1 mentioned earlier with respect to its value for the Town.
2 I think any time that you could get consolidated advice,
3 interpretation, and technical analysis free from the
4 federal and territorial regulatory authorities, that
5 would be of benefit and of value to the Town. It would
6 probably help to narrow its interpretation of results and
7 to assess the quality of results, and to find if it's
8 consistent with what end products probably will end up
9 having to be. I would suggest that that in itself would
10 probably be of great value to the Town.

11 THE CHAIRPERSON: Thanks, Todd. Did you
12 have a response, Town of Fort Smith?

13 MR. JEAN SOUCY: Jean Soucy, Town of Fort
14 Smith. Yeah, Fort Smith would -- would welcome free
15 advice, as long as the free advice didn't cost money in
16 the long run. So I just want to make sure that that's
17 stated.

18 THE CHAIRPERSON: Well, that's an
19 excellent point. Any response?

20 MR. FLOYD ADLEM: Mr. Chair?

21 THE CHAIRPERSON: Yes.

22 MR. FLOYD ADLEM: Sorry, I have -- I
23 actually just have one (1) other question. Floyd Adlem,
24 Board.

25 Do you have any comment on the terminal

1 licence, the length of term?

2 MR. TODD PAGET: Todd Paget, ENR. No, we
3 don't. We're not going to recommend a term, and I think
4 the reason why is simple. It's that the facility has to
5 operate, and the Town needs a solid and sewage and water
6 treatment facility. Some of the other ongoing issues can
7 be dealt with, with subsequent monitoring, working
8 groups, whatever it is, to facilitate ongoing adaptation,
9 adaptive management requirements. And I think if that's
10 placed accordingly, as whether it's periodic reporting or
11 reports, we think that would facilitate a lot of our
12 concerns outside of any time frame on a licence.

13 MR. FLOYD ADLEM: Thanks, Mr. Chair. I
14 don't have any further questions.

15 THE CHAIRPERSON: Okay. Thanks, Floyd.
16 Anything further from Town of Fort Smith?

17

18 (BRIEF PAUSE)

19

20 MR. JEAN SOUCY: Thank you, Mr. Chair.
21 No further comments at this time. Jean Soucy, Town of
22 Fort Smith.

23 THE CHAIRPERSON: Okay. Thank you, then.
24 That wraps up the presentation and question period from
25 ENR, and we'll go to presentation now from Environment

1 Canada.

2

3

(BRIEF PAUSE)

4

5

THE CHAIRPERSON: Okay. Thank you,
6 Environment Canada, for presenting, and the floor is
7 yours.

8

9

PRESENTATION BY ENVIRONMENT CANADA:

10

MS. SARAH-LACEY MCMILLAN: Thank you.

11

It's Sarah-Lacey McMillan with Environment Canada. We'd
12 like to thank you again for this opportunity to present
13 our concerns.

14

To outline our discussions this afternoon,
15 we will begin with an overview of Environment Canada's
16 mandate as it relates to this water licence renewal.
17 Mary will speak to our comments and recommendations
18 relating to the sewage disposal facility, and I'll
19 present our concerns and recommendations to the solid
20 waste disposal facility as a brief -- as well as a brief
21 closing remark.

22

The primary relevant legislation and
23 standards under Environment Canada's mandate, which
24 influenced our submission to the Board, is the Canadian
25 Environmental Protection Act of 1999, and the Sections 36

1 to 42 of the Fisheries Act.

2 CEPA 1999 is an act respecting pollution
3 prevention, as well as the protection of the environment
4 and human health in order to contribute to sustainable
5 development. The Act provides the federal government
6 with tools to protect the environment and human health,
7 establish strict deadlines for controlling certain toxic
8 substances, and requires the virtual elimination of toxic
9 substances which are bio-accumulative, persistent, and
10 the result from a -- primarily a human activity.

11 Examples of preventative control
12 instruments include regulations, pollution prevention
13 plans, and environmental emergency plans.

14 Environment Canada, on the behalf of the
15 Minister of Fisheries and Oceans Canada, administers
16 sections of the Fisheries Act. The main prov --
17 pollution prevention provision is found in subsection
18 36(3) of the Act, and is commonly referred to as the
19 general prohibition.

20 This subsection prohibits the deposit into
21 fish-bearing waters of substances that are deleterious to
22 fish. The legal definition of deleterious substances
23 provided in the Act is a very broad interpretation of the
24 word, and includes any substance with a potentially
25 harmful chemical, physical, or biological effect on fish

1 or fish habitat.

2 One measure of a deleterious substance,
3 such as a liquid discharge, is acute toxicity as measured
4 by the standard ninety-six (96) hour bioassay test.

5 I will now ask Mary to continue the
6 discussion.

7 MS. MARY KELLY: Thank you, Mr. Chair,
8 for this opportunity to speak. I will just back up a
9 slide for a moment to identify that subsection 36(3)
10 allows for the discharge of what could be deleterious
11 substance if there are regulations specified under the
12 Act.

13 And, currently, Environment Canada has
14 proposed wastewater system effluent regulations which
15 would fall under the authority of the Fisheries Act.
16 This regulation is currently proposed, it's not final at
17 this stage. And the NWT is exempt from this regulation,
18 but I bring it up because in a few years from now we can
19 expect an amendment to this regulation that would bring
20 the NWT into that regulation.

21 This regulation is an implementation tool
22 for the CCME Canada-wide strategy for the management of
23 municipal wastewater effluent. And at -- at this stage,
24 there's nothing that's been decided as to what reg --
25 what conditions or standards would be applied in the NWT.

1 There's no decision yet on how these regulations, when
2 they impact the Northwest Territories, how this will
3 affect the water licences.

4 These are discussions that are yet to take
5 place between Environment Canada and the Water Board, as
6 well as between Environment Canada and the jurisdictions
7 that are exempt from the regulation.

8 So until such time as a regulation
9 authorizes a discharge of what could be deleterious
10 substance, the standards that are applied are those under
11 -- under the -- the Fisheries Act subsection 36(3), which
12 prohibit the deposit of deleterious substance to waters
13 frequented by fish. And this forms the basis of our
14 recommendations.

15 So speaking specifically about the sewage
16 disposal facility, and I'll just identify, this image
17 here was taken in July of 2007 and it doesn't show very
18 clearly the effluent discharge, but I'll just outline it
19 here. That's the effluent discharge into the Slave
20 River.

21 The Water Board has requested that
22 Environment Canada and other parties consider the new
23 policy with regards to water and effluent quality
24 management and to comment on water quality objectives in
25 the receiving environment as well of -- as well as

1 effluent quality criteria.

2 Environment Canada is not in a position to
3 recommend specific numbers or locations for water quality
4 objectives in the receiving environment, but we are able
5 to review the scientific basis that would lead to those
6 conclusions and identify whether we agree that it is
7 protective or not.

8 However, we would recommend that -- that
9 the effluent that is deposited into the river would not
10 be acutely toxic. We've seen from the sample results
11 from 2004 to 2009 that acute lethality tests have passed
12 for rainbow trout, but we also have seen that the
13 effluent quality varies from season to season.

14 In the winter, the effluent quality is
15 very different than the summer effluent quality. The
16 same with the spring and the fall. They are di -- it's a
17 different effluent quality that's being discharged.

18 While this acute lethality test has been
19 conducted most often in October, there is one (1)
20 occurrence in June. Environment Canada would recommend
21 that the test be performed four (4) times a year to get a
22 whole effluent assessment of the water being discharged
23 under the different -- the different conditions of -- of
24 effluent.

25 In the winter, as I mentioned before, the

1 effluent cri -- quality is different, the BOD and the
2 ammonia are very high, and in the summer those numbers
3 drop right down. And so the picture that is -- that is
4 achieved in sampling in October, when, according to
5 lagoon treatment, that would be the best treatment
6 achievable by October, it doesn't reflect worst-case
7 scenarios or may -- I would even put forward even average
8 scenarios.

9 Therefore, we'd recommend that the test
10 mentioned below, the acute lethality pass/fail bioassay
11 test for rainbow trout, be conducted quarterly and that
12 that requirement, that the waste discharge would not be
13 acutely lethal, as determined through this test would be
14 a condition of the licence.

15 On the same to -- topic of the acute
16 toxicity test, which is commonly referred to as the
17 bioassay test, it was previously identified today that
18 the location of assessing the acute toxicity has come
19 into question, and up to date, that sample has been
20 collected in the receiving environment, which would
21 represent a dilute picture of the effluent quality. And
22 it is standard to conduct this test on the full-strength
23 effluent, the end of pipe effluent.

24 There has been some discussion as to the
25 location of collection, and it has been identified that

1 the one (1) location that could be appropriate would be
2 in the culvert, which there's a picture here again which
3 shows the ladder going down to the water at the bottom.

4 There's a rope that is attached to some
5 form of -- of bucket. And it is my understanding that
6 the other water quality samples are collected in the
7 fashion of dropping the bucket down, bringing it up --
8 bringing it up and filling the bottles.

9 A composite sample for acute toxicity
10 would be appropriate, and therefore, if a 1-gallon bucket
11 were dropped four (4) to five (5) times, you could fill a
12 twenty (20) litre bucket. And it's my understanding,
13 though, this would be -- need to be confirmed.

14 The acute toxicity test requires twenty
15 (20) litres. Therefore, we'd recommend that the sampling
16 location for acute toxicity be at the same location as
17 SNP-567-2, and that it represent full-strength effluent
18 before mixing in the environment.

19 I have two (2) more recommendations with
20 regards to the sewage disposal facility. The sludge
21 management plan, as I understand, has been a plan that
22 the Town has agreed to produce and submit to the Board.
23 We understand that, typically, sludge is removed from the
24 system every five (5) years, or when it is deemed that it
25 is time to remove the sludge because there's too much.

1 This is the type of information that the
2 sludge management plan would include, is: How are -- how
3 is the sludge level measured and monitored? At what
4 point does it require removal? Where is it stored, and
5 how is it treated? And this information can be contained
6 within the operation and maintenance plan for the sewage
7 facility, which I understand is the intention of the
8 Town.

9 I would like to identify, because I
10 anticipate some questions along these lines, that best
11 management practice would be to remove the sludge from
12 the cells, and that the two (2) primary cells are
13 designed specifically to remove the solids and keep them
14 out of the secondary cell. And, therefore, we would
15 expect sludge to build up, and we would expect that, over
16 time, there'd be too much sludge that would impact the
17 treatment efficiency.

18 So removal of the sludge is not a common
19 practice in the NWT. And where it is removed and placed
20 in a drying-out cell, which again -- you can't see very
21 well in this -- in the light, but this is an image of the
22 drying bed where sludge is -- is placed. From what I
23 understand, a typical disposal place is in the landfill,
24 and when it's disposed of in the landfill, it's within
25 the municipal waste environment, and therefore the risks

1 associated are not as great as when they leave the waste
2 disposal, the -- yeah, the waste disposal facilities.

3 It was also inquired in the past
4 questioning, the questioning to ENR, about the -- any
5 guidelines. Environment Canada does not have guidelines
6 for biosolids, and CCME has the intention of finalizing
7 their guidelines. It's my understanding that those
8 guidelines are specific to the final usage criteria, and
9 not the treatment. And so I can confirm that lagoon
10 sludge, when removed and dewatered and dried out in a
11 drying bed like this, this is a standard practice, and
12 that that, in our understanding, does form part of this
13 water licence process.

14 The final disposal and the criteria that
15 needs to be met before disposal, that is where our
16 distinction of what is outside of the current process.
17 I'll leave it at that for now.

18 Along the same lines as the sludge
19 management plan, a general operation and -- and
20 maintenance plan for the sewage disposal facility is
21 required. It was required under the current licence, and
22 the facility has been in operation for forty (40) years.
23 Therefore, an O&M plan is required. It has been
24 indicated that one does exist, but it has not been
25 submitted to the Board in terms of what has been -- what

1 we have been able to -- to find to date.

2 We recommend that this plan be submitted
3 within the first twelve (12) months of the issuance of
4 the new licence, and that if there are any changes to the
5 operation and maintenance, that these changes, if
6 significant, would require Board approval. Some of the
7 changes may be filed within the annual report, but the
8 annual report may or may not be submitted for approval
9 and, therefore, significant changes may be overlooked if
10 they are to -- to occur and to be filed through the
11 annual report.

12 So, with that, I'll -- we'll move on to
13 the solid waste facility, and I'll hand it back over to
14 Sarah-Lacey.

15 MS. SARAH-LACEY MCMILLAN: Thank you,
16 Mary. It's Sarah-Lacey McMillan with Environment Canada.

17 Based on the AECOM report of May 2011,
18 under Section 5.2 it appears that the Proponent may not
19 be fully following the terms and conditions of the water
20 licence with respect to SNP groundwater sampling and
21 reporting of total metals. The water licence sampling
22 and analysis requirements require sampling of total metal
23 concentrations for SNP's sites 567-4 and 567-5.

24 Groundwater guidelines should be applied
25 where applicable. For example, both CCME guidelines for

1 the protection of aquatic life and guidelines for
2 Canadian drinking water quality were used for the purpose
3 of evaluating the groundwater monitoring program between
4 2006 and 2010. These guidelines may not always be
5 appropriate benchmarks for which to compare groundwater
6 concentrations.

7 Environment Canada recommends the federal
8 interim groundwater quality guidelines which were
9 provided to the Board in our inter -- our written
10 intervention of June 30th. These guidelines were
11 recently developed to assist federal custodians in
12 managing federal contaminated sites as an interim measure
13 until Canadian groundwater quality guidelines are
14 available. These guidelines are a risk-based, tiered
15 approach and have generally been developed using the
16 methods consistent with nationally-approved protocols
17 published by CCME.

18 Environment Canada is concerned that
19 currently groundwater sampling data suggest that metals
20 may be leaching from the landfill towards an adjacent
21 stream that leads in the general direction of the Slave
22 River. It is unknown as to what current measures are in
23 place to minimize migration of detected elevated
24 contaminants from the landfill site to the receiving
25 environment.

1 It should be noted that there is no
2 groundwater contingency plan currently in place to
3 address elevated exceedances detected via the monitoring
4 program. Therefore, Environment Canada recommends that a
5 groundwater contingency plan be included as a requirement
6 of the water licence. The plan should outline in detail
7 the corrective action required whenever contaminants in
8 the groundwater exceed applicable guideline criteria.

9 In 2008 IEG Consultants recommended that
10 an upgradient and downgradient surface water sample
11 should be collected and, therefore, two (2) surface water
12 samples were collected in 2009 and 2010. And this is an
13 issue that we spoke to ear -- or, that was addressed
14 earlier this morning, That the -- approximate location
15 of the upgradient surface water sample site could still
16 potentially be downgradient of contaminant migration from
17 the landfill based on the general direction of the near-
18 surface groundwater flow and the surface runoff.

19 Environment Canada is concerned with the
20 location of the upgradient surface water control site.
21 We recommend that the upgradient surface water sampling
22 site be located further upstream to avoid any potential
23 or possible influence from contaminants migrating from
24 the landfill.

25 In our initial comment letter, Environment

1 Canada recommended that an investigation into the source
2 of metals be taken. Until it is shown that the high
3 levels of metals present in the drainage from the solid
4 waste facility are due to elevated background levels
5 these results remain a concern. Environment Canada
6 recommends the Proponent characterize background site
7 conditions with respect to metals in the vicinity of the
8 solid waste facility and propose appropriate criteria.
9 Elevated metals in the site drainage have been documented
10 and the source needs to be identified and further action
11 taken if warranted.

12 Our recommendation relating to interim
13 closure and reclamation plan is twofold. First, some
14 simple word smithing. We recommend that the title,
15 Abandonment and Restoration Plan, in the water licence
16 under Part F be updated to, Closure and Reclamation Plan,
17 just to be consistent with current term -- terminology.

18 The second concern relates to the current
19 water licence, Part F, which requires an approved
20 abandonment and restoration plan at least six (6) months
21 prior to abandoning any waste disposal facility. Closure
22 and reclamation plans are prepared as conceptual,
23 interim, and final, depending on which phase a facility
24 is at.

25 Given the facility is currently in its

1 operational phase, having an interim closure and
2 reclamation plan in place can assist with stakeholder
3 involvement, and that is proactive in establishing
4 closure objectives and remedial criteria. We were
5 pleased to hear earlier from the Town that they have
6 committed to preparing a closure and reclamation plan.

7 So just some quick closing remarks. We'd
8 like to thank the Board for the opportunity to
9 participate in the renewal process. It is a priority to
10 enhance environmental protection, and we look forward to
11 continue working with the Town and the Board in the
12 hearing process and onwards. Thank you for your
13 attention. If you have any questions...?

14 THE CHAIRPERSON: Thank you for that
15 presentation. Did we want to grab a fast coffee, and
16 then we could always come back, and do questions while
17 we're having coffee.

18

19 --- Upon recessing at 2:34 p.m.

20 --- Upon resuming at 2:43 p.m.

21

22 THE CHAIRPERSON: Dr. Racher, back at the
23 table. We'll get back with some questions for
24 Environment Canada starting with the Town of Fort Smith.

25

1 (BRIEF PAUSE)

2

3 QUESTION PERIOD:

4 MR. JEAN SOUCY: Thank you, Mr. Chair.
5 Jean Soucy with the Town of Fort Smith. We'd just like
6 to confirm with EC with regards to the -- to the CCME.
7 I'd like to confirm that -- to the Board that CCME
8 standards are not currently -- do not currently apply to
9 the NWT.

10 THE CHAIRPERSON: Was that a -- a
11 question of Environment Canada?

12 MR. JEAN SOUCY: I'm sorry, yeah, I'd
13 just like to -- to make sure that that goes on the
14 record, and it is a question.

15 THE CHAIRPERSON: Okay. Thank you. So
16 over to Environment Canada.

17 MS. MARY KELLY: This is Mary Kelly with
18 Environment Canada. Thank you for that question.

19 I will clarify that the CCME Canada-wide
20 strategy for the municipal wastewater effluent document
21 contains a variety of things, including standards for
22 water quality, including reporting timelines, including
23 how quickly systems would need to come into compliance,
24 and these -- these details form the -- the basis of the
25 proposed wastewater system effluent regulations.

1 In both those documents that I've
2 identified, the Northwest Territories is exempt from the
3 standards currently. I would just highlight though that
4 the document, the CCME strategy for the manage -- Canada-
5 wide strategy for the management of municipal wastewater
6 effluent does include a certain level of policy direction
7 that says, nationally, we should have a consistent
8 approach to how wastewater is managed, and that it
9 shouldn't be different from one jurisdiction to the next.

10 And that is something that the Minister of
11 the Environment for the Northwest Territories
12 participated in, the discussion for that document, and --
13 and endorsed it as -- as -- endorsed the strategy.
14 However, the application of the strategy, and the
15 specific numbers and requirements as set out for the NWT
16 have not yet been determined.

17 If that was -- provided a clear answer, I
18 hope that's correct. If not, please follow up with some
19 questions.

20 THE CHAIRPERSON: Thank you. Back to the
21 Town of Fort Smith.

22 MR. JEAN SOUCY: Thank you, Mr. Chair.
23 Jean Soucy. Yeah, thank you for that -- for that
24 response. It is -- it is my understanding that, yes,
25 that the Territories is somewhat unique, and a -- a

1 recommendation has been made to the CCME, because of the
2 uniqueness of the Territories, and -- in light of a large
3 amount of -- of lagoon systems.

4 So, having said that, the recommendation
5 for end pipe toxicity sampling is a CCME standard
6 currently, and why would the Town of Fort Smith assume
7 these standards as-is, as they're still not approved by
8 the NWT as a standard?

9 THE CHAIRPERSON: Thank you. Back to
10 Environment Canada.

11 MS. MARY KELLY: This is Environment
12 Canada. This is Mary Kelly with Environment Canada. As
13 I identified in my presentation, the standards, as set
14 out through the CCME Canada-wide strategy and the
15 proposed regulations, do not form the basis of our
16 recommendation. Our -- the basis of our recommendation
17 is the Fisheries Act, which requires non-acutely -- non-
18 deleterious -- let me start again.

19 The basis of our recommendation is the
20 Fisheries Act that requires that deleterious substances
21 not be discharged into an environment that has fish. The
22 best way to assess that deleteriousness, or the most
23 common test, is the acute toxicity test. And, for that
24 reason, we would recommend that standard.

25 THE CHAIRPERSON: Thank you. Over to

1 Jean.

2 MR. JEAN SOUCY: Thank you, Mr. Chair.
3 Jean Soucy, Town of Fort Smith. The Town of Fort Smith
4 has -- has been doing toxicity sampling for the last six
5 (6) years, I believe, with 100 percent successful rate in
6 -- in the analysis due to the location, though, where the
7 sample is taken directly -- directly in, or just coming
8 out of the diffuser from the -- from the discharge of the
9 lagoon. So we do currently have a toxicity sampling
10 system in place, and our sampling is very consistent, and
11 our -- our tests have proven that our impact to fisheries
12 is nil, at best. Thank you.

13 THE CHAIRPERSON: Thank you for that.
14 Then back to ENR -- sorry, to Environment Canada.

15 MS. MARY KELLY: This is Mary Kelly with
16 Environment Canada. I don't believe there was a question
17 posed, so I have no comment at this point.

18 THE CHAIRPERSON: Any questions from the
19 Town of Fort Smith?

20 MR. MICHAEL STEED: This is Michael Steed
21 with the Town of Fort Smith. Just wondering about
22 Alberta -- or Environment Canada's perspective on the ten
23 (10) years of groundwater levels, indicating groundwater
24 flow to the northeast, if the monitoring wells in the
25 southwest edges of the landfill are not characterizing

1 background groundwater conditions at the site? Thank
2 you.

3 THE CHAIRPERSON: Thank you. Over to
4 Environment Canada.

5 MS. SARAH-LACEY MCMILLAN: This is Sarah-
6 Lacey McMillan with Environment Canada. Sorry, I don't
7 know all the directions and the numbering of the sites,
8 and I'd have to look at a map, but what Environment
9 Canada is concerned with is that there hasn't been a
10 background characterization of the groundwater at the
11 site. And so we're not comfortable with just making the
12 assumption that those monitoring wells are the background
13 concentrations.

14 THE CHAIRPERSON: Okay. Thanks for that.
15 And Town of Fort Smith...?

16

17 (BRIEF PAUSE)

18

19 MR. MICHAEL STEED: I -- I guess, in
20 response to -- to that response, it's the Town's opinion
21 that the three (3) wells that are there in the south and
22 the southwest are background to the landfill and provide
23 a characterization of the groundwater entering into the
24 landfill, and those wells have shown elevated metal
25 concentrations as well.

1 THE CHAIRPERSON: Thank you. Back to
2 Environment Canada.

3 MS. SARAH-LACEY MCMILLAN: Sarah-Lacey
4 McMillan with Environment Canada. I -- I mean, that was
5 a statement, it wasn't a question. But just another food
6 for thought, I guess, is that at least one (1) monitoring
7 well may be potentially within the zone of influence and
8 so using that as a background condition could be
9 problematic. And so having proper background
10 characterization of the area would be beneficial to help
11 determine the influence of the landfill.

12 THE CHAIRPERSON: Town of Fort Smith...?

13 MS. LINDSAY MCINTYRE: Lindsay McIntyre
14 with the Town of Fort Smith. Maybe you could clarify
15 what you mean by "background characterization".

16 THE CHAIRPERSON: Environment Canada...?
17

18 (BRIEF PAUSE)

19
20 MS. MARY KELLY: This is Mary Kelly with
21 Environment Canada. Just briefly -- and this is not an
22 exhaustive explanation, but a background analysis would
23 include identifying a location that is similar in terms
24 of ground and groundwater to the landfill site,
25 identifying that that location is not impacted by the

1 landfill site or other sources that may affect the
2 groundwater quality besides natural sources, and doing
3 sufficient sample analysis to quantif -- quantify and
4 qualify the groundwater quality in that location. And
5 then that information would be used to compare to what is
6 being seen in the groundwater results at the landfill
7 site.

8 THE CHAIRPERSON: Back to the Town of
9 Fort Smith.

10 MS. LINDSAY MCINTYRE: It's my
11 understanding that we have three (3) wells that are
12 upgradient of our landfills that are not impacted by any
13 runoff, any infiltration, or any impact to the
14 groundwater from our landfill site.

15 Don't those qualify as background wells,
16 as background comparisons?

17 THE CHAIRPERSON: Did you want to
18 identify yourself?

19 MS. LINDSAY MCINTYRE: Lindsay McIntyre
20 with the Town of Fort Smith.

21 THE CHAIRPERSON: Thank you. And over
22 to Environment Canada.

23 MS. MARY KELLY: This is Mary Kelly with
24 Environment Canada. While we understand that this is the
25 position of the Town of Fort Smith, there has been

1 conflicting information and information that leads to us
2 questioning whether it does represent background levels.

3 It was stated today, and I can't remember
4 who said it, so I won't label it to anyone in particular,
5 but it was suggested that the proximity of those wells to
6 the landfill, as well as the cross-flow of groundwater
7 could impact the water quality -- the groundwater quality
8 at that site. And this is why we have concerns as to
9 whether those samples represent what is background in
10 that vicinity.

11 THE CHAIRPERSON: Thank you. The Town
12 of Fort Smith...?

13 MR. JEAN SOUCY: Thank you, Mr. Chair.
14 Jean Soucy from the Town of Fort Smith. Just the -- as a
15 reference point, I'd just like to identify the upgradient
16 wells: BH-02, BH-01B, and BH-01A as on the extreme east
17 side of the landfill towards the highway, I suppose, on
18 the extreme sides of the landfill as you enter into the
19 landfill itself. That's where the wells are, a large
20 distance away from the landfill, household landfill, as
21 well as the hydrocarbon cells and other -- other cells
22 and sites that we have.

23 THE CHAIRPERSON: Thank you. Over to
24 Environment Canada.

25

1 (BRIEF PAUSE)

2

3 MS. MARY KELLY: This is Mary Kelly, with
4 Environment Canada. At this point, we don't have any
5 further comments.

6 THE CHAIRPERSON: Okay, thank you. Any
7 further questions for the Town of Fort Smith?

8 MR. JEAN SOUCY: Thank you, Mr. Chair.
9 Jean Soucy, from the Town of Fort Smith. No further
10 comments at this time. Thank you.

11 THE CHAIRPERSON: That's from all three
12 (3) of you? Okay. Thank you very much then. And we
13 will now go to ENR for any questions for Environment
14 Canada.

15 MS. DIEP DUONG: This is Diep Duong, with
16 ENR. We have no comments at this time. Thank you.

17 THE CHAIRPERSON: Okay, thank you. Then
18 we'll go to AANDC.

19 MS. MARIE ADAMS: No comments at this
20 time from AANDC. Thank you.

21 THE CHAIRPERSON: Thank you. I don't
22 believe there's any registered speakers. Any comments
23 from the general public? I'll go to Board staff.

24 DR. KATHY RACHER: Kathy Racher, for the
25 Board. So we have talked a bit about the Canada-wide

1 strategy for the management of municipal wastewater
2 effluent, them not being meant to apply to northern
3 municipalities for the time being.

4 The draft regulations, though, as they --
5 as they are at the moment, or the last version in the
6 Canada Gazette, actually would not have a requirement at
7 all for acute toxicity testing for a facility this -- for
8 a Town with the si -- size of the Town of Fort Smith.

9 And so I'm just -- I guess I'm kind of
10 wondering why you're currently recommending much more
11 testing for the Town of Fort Smith when if the regs were
12 to come into place and if they were to apply to the
13 north, those particular requirements wouldn't be put on
14 the Town -- on this particular Town.

15 THE CHAIRPERSON: Thank you. Environment
16 Canada...?

17 MS. MARY KELLY: This is Mary Kelly, with
18 Environment Canada. I'm just formulating a proper answer
19 to the question. As mentioned in the presentation, the
20 Fisheries Act allows for a regulation to allow for the
21 authorization of deposit of substance that could be
22 harmful. Such a regulation is being proposed but not
23 being proposed for the NWT at this time. Therefore, what
24 stands currently is that the effluent should not be
25 acutely toxic and not deleterious, and the substance of

1 the draft regulation is not impacting our recommendations
2 today.

3 THE CHAIRPERSON: Thank you. Back to the
4 Board.

5

6 (BRIEF PAUSE)

7

8 DR. KATHY RACHER: Kathy Racher, for the
9 Board. You've recommended quarterly testing of the
10 hundred percent effluent for acute lethality, and you've
11 also recommended that the waste discharge should not be
12 acutely lethal as a condition of the water licence.

13 Do you think that the -- based on the
14 concentrations of substances that we have seen in this
15 last several years in the effluent, do you think that
16 they would pass the test, in the winter months in
17 particular?

18 MS. MARY KELLY: This is Mary Kelly, with
19 Environment Canada. I cannot provide an answer to that.
20 It would be pre-emptive for me to suggest that I know
21 what the water quality acute toxicity test would --
22 whether it would or would not pass.

23 There's a possibility that it would not,
24 and I understand that that -- that requires further
25 thought from the Board as to what would happen if it does

1 not pass. And that's as much as I can say at this point.

2 THE CHAIRPERSON: Thank you for that
3 answer. Further from the Board...?

4 DR. KATHY RACHER: Okay. Just on the
5 subject of the sewage effluent. In your -- when you were
6 questioning Golder on their memo earlier, I -- I believe
7 this is what you said, and so I just wanted it to be
8 clarified.

9 You said that Table 3 of their memo where
10 they compare technology-based limits to water quality
11 based limits, you said something about those limits being
12 for raw sewage, and why -- why were they using criteria
13 for wa -- raw sewage as -- as a technology-based limit.
14 And yet those criteria are from the existing licence, and
15 they are not for raw sewage. They're for treated sewage.
16 I just wanted to clarify what you were trying to get at
17 there.

18 MS. MARY KELLY: This is Mary Kelly with
19 Environment Canada. I guess the clarification is that
20 those limits would be applied to the effluent, and I
21 recognize that. It would not be applied to raw sewage.

22 What I was getting at is that the numbers
23 of BOD 300 milligrams per litre, and TSS 200 milligrams
24 per litre is what you'd expect from raw wastewater. So
25 before it even enters the sewage treatment facility, that

1 -- those are the numbers one would expect.

2 And for -- for the general purposes of
3 understanding the quality of raw sewage, trucked sewage
4 is typically between 250 and 600 milligrams per litre for
5 BOD and TSS, whereas this facility is 85 percent piped.
6 Piped sewage is between 150 and 300 milligrams per litre
7 BOD and TSS.

8 The water usage is 300 litres per person
9 per day, which is a high volume for the Northwest
10 Territories, and that is tied primarily to the piped
11 system. Trucked systems -- in communities with trucked
12 systems the per capita usage is 90 litres, or 120 litres
13 per person per day, and therefore the sewage strength is
14 much stronger -- much stronger for trucked sewage.

15 And bringing that all back to the three
16 hundred (300) and two hundred (200), those values reflect
17 water quality that has -- or sewage quality that has not
18 received any treatment. And I wanted to highlight that
19 because it is not Environment Canada's interest to
20 support raw sewage discharged to the environment.

21 DR. KATHY RACHER: Kathy Racher for the
22 Board. Could you let -- tell me, or give me a reference
23 to where you have -- get those numbers from?

24 MS. MARY KELLY: This is Mary Kelly with
25 Environment Canada. I don't have a specific reference

1 for you today, but I could provide one.

2 THE CHAIRPERSON: Thank you. Back to the
3 Board.

4 DR. KATHY RACHER: Kathy Racher for the
5 Board. I guess normally we'd ask you for an undertaking
6 for that, but there's an opportunity to provide closing
7 comments, and if you could provide that reference in your
8 closing compen -- comments, we would appreciate that.

9 Back to the landfill. On page 8 of your
10 intervention you state that:

11 "Elevated metals in the site drainage
12 have been documented, and the source
13 needs to be identified and further
14 action taken if warranted."

15 Can you tell me which metals are of particular concern --
16 concern to Environment Canada at this time, and have you
17 identified any trends through time of increasing levels
18 of metal -- metals in the groundwater or surface water
19 samples?

20 MS. SARAH-LACEY MCMILLAN: Sarah-Lacey
21 McMillan with Environment Canada. I'm sorry, at this
22 moment I don't have the list with me. I can bring it --
23 or provide it in the closing argument, if you'd like, the
24 ones that are specifically of concern.

25 THE CHAIRPERSON: Okay. Thank you for

1 that. John, is there -- there isn't any problem with
2 doing it in the closing argument instead of through an
3 undertaking? It's...

4 MR. JOHN DONIHEE: No.

5 THE CHAIRPERSON: No, okay. Back to the
6 Board.

7 DR. KATHY RACHER: Kathy Racher for the
8 Board. Okay. Yes, I'd like to know what specifically
9 were the issues for Environment Canada with regard to
10 elevated metals, and what the basis for that statement
11 actually is. I think we've beat the background
12 concentrations to death, so I think the only other
13 question I have -- oh, and I have two (2) more questions.

14 One (1), you've recommended a groundwater
15 contingency plan, and I just wondered if you could give
16 us an example of a groundwater contingency plan, or
17 examples of other municipalities that have such plans,
18 and what kind of information would be in such a plan.

19 MS. SARAH-LACEY MCMILLAN: Sarah-Lacey
20 with Environment Canada. Again, I'm -- I apologize, I'm
21 not a groundwater expert, and so I don't have examples of
22 communities offhand that are using those as -- as of yet.
23 It doesn't mean it's not being done, I just don't have
24 them with me today.

25 THE CHAIRPERSON: And back to the Board.

1 DR. KATHY RACHER: Kathy Racher with the
2 Board. Okay. And, lastly, with regard to the
3 recommendation for an interim closure and reclamation
4 plan, I just wondered if you knew if it's common practice
5 for municipal facilities, in your experience, to have an
6 interim closure plan, and if -- again, if you had any --
7 if you just have any examples offhand. And -- and also,
8 how far in advance of closure of, for example, the
9 landfill would you expect such a plan to be submitted?

10 THE CHAIRPERSON: Thank you, Kathy. Back
11 to Environment Canada.

12 MS. SARAH-LACEY MCMILLAN: Sarah-Lacey
13 with Environment Canada. I -- I think the boar -- or the
14 Town's commitment of providing one (1) within a year is -
15 - is great. It -- it helps provide the planning for the
16 closing. It's -- it's difficult, with something that's
17 projected to be functioning for another twenty (20)
18 years, to expect them to only think about closing six (6)
19 months prior to closing. So being proactive, preparing
20 is the -- a great way for the Town to understand the
21 system and what they need to do to close the facility. I
22 also don't have any examples of interim plans.

23 THE CHAIRPERSON: Thank you. Further
24 from the Board...? Kathy, were you going to perhaps give
25 them a note there of what you asked there for some under

1 -- they're not -- we're not calling them undertakings,
2 but in their closing remarks you can get the information,
3 because I believe there's at least three (3) requests
4 that you had made for some clarification.

5 DR. KATHY RACHER: Kathy Racher for the
6 Board. I think the only one that I think that the Board
7 needs as far as evidence is the -- the basis for the
8 statement that -- about elevated metals. It would -- I -
9 - I believe the Board needs to know what if -- what
10 specific concerns are, as opposed to just a general --
11 general statement. Everything else, I'm -- I'm not
12 actually going -- I asked in case they knew, but I -- I'm
13 not going to request it at this time. Just that one (1)
14 item is important.

15 THE CHAIRPERSON: I guess request of
16 Environment Canada is if you are prepared to -- to give
17 us that information in your closing arguments, or did you
18 want to take it as an undertaking?

19 MS. SARAH-LACEY MCMILLAN: For
20 simplicity's sake, we can put it in our closing
21 arguments.

22 THE CHAIRPERSON: Great. Thank you for
23 that. Then we'll go the Board, then. Floyd Adlem...?

24 MR. FLOYD ADLEM: I have no questions.

25 THE CHAIRPERSON: Pat...?

1 MR. PATRICK LAROCQUE: I have no
2 questions, Mr. Chair, thank you.

3 THE CHAIRPERSON: Keyna...?

4 MS. KEYNA NOWEGIAN: I have no questions.

5 THE CHAIRPERSON: Okay. Great. Thank
6 you very much. Very informative for -- for Sarah-Lacey
7 and Mary.

8 Now we'll go to our last Intervenor
9 presentation for the day from Aboriginal Affairs and
10 Northern Development Canada.

11

12 (BRIEF PAUSE)

13

14 THE CHAIRPERSON: And whenever you're
15 ready there, you don't have to rush yourself, you can
16 start your presentation.

17

18 (BRIEF PAUSE)

19

20 PRESENTATION BY ABORIGINAL AFFAIRS AND NORTHERN
21 DEVELOPMENT CANADA:

22 MS. JEANNE ARSENAULT: Good afternoon,
23 Mr. Chair, Board members, ladies and gentlemen. My name
24 is Jeanne Arsenault and I'm with the Water Resources
25 Division of Aboriginal Affairs and Northern Development

1 Canada.

2 Today I will be presenting AANDC's
3 intervention on the Town of Fort Smith Type A Water
4 Licence Application. With me today is Mrs. -- sorry,
5 Ms. Marie Adams who is also with the Water Resources
6 Division at AANDC; Mr. Wayne Starling, Water Resource
7 Officer with the South Mackenzie District has been
8 participating in this renew -- renewal process, but is
9 now retired since July 8.

10 I anticipate that our presentation will
11 take no longer than twenty (20) minutes and we're open to
12 question following the presentation.

13 So, first, here's a quick overview of our
14 presentation. Today I'll brief -- briefly describe the
15 technical issues identified by AANDC with respect to this
16 application and provide fifteen (15) recommendations in
17 response to these issues. We have grouped our recommend
18 -- recommendation under the following six (6) theme:
19 annual reporting, sewage disposal facilities, snow
20 disposal location, management plan or management plans,
21 wastewater management, solid waste disposal facility.
22 After that I will close with some brief concluding
23 remarks.

24 The first part of the presentation is in
25 relation to annual reporting. The next three (3)

1 recommendations are intended to provide greater clarity
2 to the Board, the Town, and to reviewers, while
3 facilitating communicating of information via annual
4 reports. Furthermore, this will help identify and
5 prevent issues by providing suggestion for improvement or
6 mitigation when required.

7 The first point refers to result of any
8 inspection of all dams, berms, dikes, and control
9 structures that will have been conducted. Yearly
10 submission of that information will allow all parties to
11 better understand the current state of various structures
12 and their performance.

13 The next three (3) points relating to
14 yearly submission of modification made to snow disposal
15 locations, operational -- operation and maintenance plan,
16 as well as sludge management practices will be discussed
17 in further details in recommendation number 4, as well as
18 recommendation 7 to 11.

19 With respect to the last point, the
20 submission of data results collected at the Town's five
21 (5) SNP stations are already being provided within their
22 annual reports. AANDC recommends that a com --
23 comparison of the collected data to the water licence
24 regulated limits be put -- be performed every year in
25 order to clearly identify exceeding parameters, if any.

1 Landfarm leachate sampling results. The
2 landfarming facility located within the solid waste
3 disposal facility boundaries was constructed in 2000 by
4 GNWT Public Works Services to remediate hydrocarbon-
5 impacted soil excavate -- excavated under Fort Smith
6 campus of Aurora College.

7 The landfarm has been managed by GNWT
8 since its construction. This facility is not covered
9 under the current type A water licence. It was brought
10 to AANDC's attention that the Town of Fort Smith sub --
11 submitted a type B water licence in 2009 to cover for the
12 operation of this landfarm facility.

13 A 2009 memorandum letter from AECOM states
14 that:

15 "The facility's being transferred from
16 Public Work Services to the Town."

17 As well, it states that:

18 "Additional dumping of contaminated
19 solid had occurred since Public Work
20 Services terminated its landfarming
21 treatment mandate of Aurora College
22 soils."

23 It was clarified during a technical
24 session that the landfarm facility was available for
25 contaminated -- contaminated soil treatment as an if-

1 needed basis. AANDC would like to remind the Town that
2 until landfarm ownership is clarified and until
3 landfarming operation are permitted and licenced
4 contaminated soil treatment using either the sump or one
5 (1) of the landfarm cell is not authorized.

6 The operation of a contaminated soil
7 treatment facility, even on a temporary basis, will
8 impose further responsibility on the Town of Fort Smith.
9 These responsibility will become requirement either under
10 the current type A water licence as an amendment or under
11 another licence application with respect to monitoring
12 requirements, inspections, operation and maintenance
13 manual procedures, and annual reporting. Such
14 requirements are made to facilitate and encourage best
15 practices with respect to landfarming operations.

16 Lastly, while recommendation number 2 may
17 not be effective for the renewal of this current water
18 licence application, AANDC would like to bring to the
19 attention of the Board that it will become a requirement
20 in the future if or when landfarming -- landfarming
21 operations are approved under a different water licence,
22 or even within the current type A water licence as an
23 amendment. When or if that occurs, a condition relating
24 to leachate monitoring should be included.

25 Groundwater sampling results. Within the

1 water licence part B typically refers to components to be
2 reported through the annual report. Item 1(L) of the
3 current water licence refers to groundwater sampling
4 conditions which have been modified since -- sorry, which
5 have been modified since following an amendment approved
6 by the Board in 2006.

7 As groundwater sampling condition may also
8 require further modifica -- modification in the future,
9 AANDC recommends that the water licence condition in part
10 B, item 1(L), be revised to read:

11 "The result of sampling and testing of
12 the groundwater monitoring wells at the
13 landfill as modified and approved by
14 the Board on September 27th, 2006, or
15 as per future sampling regime to be
16 approved by the Board."

17 Sludge removal and management. The next
18 two (2) recommendations are linked to water licence
19 condition in relation to management plan with respect to
20 waste disposal. AANDC recommends that the Town provides
21 detail and operational procedures for removal and
22 disposal of sludge -- of sewage sludge as part of their
23 sludge management plan.

24 Plan details should include, but are not
25 limited to, estimates of the quantity of sludge likely to

1 be produced, frequency of extraction of sludge from the
2 lagoons, operational procedures developed for removal and
3 disposal of the sludge, storage, treatment, and disposal
4 of the sludge.

5 This plan will support employees in sludge
6 operation dealings and should be include -- included in
7 the Town's operation and maintenance plan within the
8 section relating to sewage disposal facility.

9 Disposal of the treated sludge. It was
10 explained at the technical session held on June 15th,
11 2011, that the sludge treatment procedures consist of the
12 use of a drying bed where the sludge remained for a
13 period of approximately two (2) years.

14 After that transition time, the sludge is
15 being transferred to a golf coarse which is serving the
16 Town of Fort Smith, but is located 2 kilometres south of
17 the NWT/Alberta border.

18 The AANDC believe that the sludge disposal
19 is part of the scope of the water licence as per Part
20 A(1) (b), which state that:

21 "This licence is issued subject to the
22 condition contained herein with respect
23 to the taking of water and the
24 depositing of waste of any type in any
25 water, or any place."

1 Deposit of sewage waste is regulated under
2 the water licence, and sludge as a byproduct of sewage
3 waste is also, therefore, included within the scope of
4 the water licence.

5 Should the sludge be contemplated for
6 municipal use, AANDC recommends that the level of soil
7 treatment required meets CCME Canadian soil quality
8 guideline for protection of environmental and human
9 health.

10 Residential park line -- parkland prior to
11 disposal. AANDC understand that in this case the Town's
12 current practice allow for disposal of the treated sludge
13 in Alberta outside of the Mackenzie Valley Land and Water
14 Board jurisdiction; however, as the end disposal location
15 consists of municipal use where members of the public may
16 be exposed to the waste, AANDC believe that the party
17 disposing of the waste is responsible to ensure that the
18 waste quality is respective of human health standards, as
19 well as under -- unfirm -- environmental standards.

20 Snow disposal locations. Recommendation
21 number 6, snow disposal location to be added. In early
22 June 2011 the Town of Fort Smith provided a map which
23 presented the two snow disposal site currently used. The
24 first site is located to the northwest of the Town, and
25 the other to the southeast.

1 AANDC recommends that the condition
2 applying to waste disposal -- that a condition applying
3 to waste disposal be added to the current water licence
4 regarding the submission of snow disposal locations with
5 their respective GPS coordinates. Any changes of snow
6 disposal locations should be reported yearly by the Town
7 to the Board by the mean of their annual reports.

8 Potential contaminant in snow. Several
9 element needs to be considered when evaluating sites for
10 snow disposal. The choice of a location can generate
11 concerns for the environment as snow may contain
12 contaminants such as hydrocarbon, fine particles and
13 debris, which are released as it melts. Melt water may
14 contain contaminants and flow into adjacent water bodies.
15 Melt water may also cause erosion problems. As well,
16 debris left behind when the snow melt may attract
17 wildlife, and birds.

18 It is suggested that -- that the Town use
19 its best practice, such as those contained within the
20 City of Yellowknife's snow disposal study which -- with
21 respect to the choice of future snow disposal location.
22 Therefore, AANDC recommends to avoid location within or
23 nearby a landfill as to avoid generating extra water that
24 will circulate through the site.

25 The City of Yellowknife's snow disposal

1 sitting study also referred to the snow disposal
2 guideline for the Province of Alberta, which stipulates a
3 required minimum setback of 200 metre from any water --
4 water body.

5 Spill contingency plan. In April of 2007,
6 AANDC released its guideline for spill contingency
7 planning and these guidelines are intended to help
8 minimize the impacts of spill of petroleum products, and
9 other hazardous material by establishing a pre-determined
10 line of response and an action plan.

11 We recommend that the current and future
12 versions of the Town's spill contingency plan conform to
13 these guidelines. So, AANDC recommends that condition
14 1(L) of the water licence should be -- should refer to
15 AANDC's guidelines for spill contingency planning, April
16 2007.

17 Keeping O&M plan current. Mr. Chair, the
18 next three (3) recommendations are with respect to
19 management plans, more specifically, operation and
20 maintenance plan. Currently, there exists a requirement
21 for the Town to have an operation and maintenance plan
22 for sewage and solid waste disposal facilities, which is
23 to be reviewed on a yearly basis. The current water
24 licence states that the Mackenzie Valley Land and Water
25 Board is to be advised of amendments made to the O&M

1 plan, if any.

2 The recommendation has been rewarded with
3 the intention of providing greater clarity. The Town's
4 current O&M plan only includes procedure for the landfill
5 facility. AANDC recommend that the O&M plan be provided
6 -- be providing procedures for their sewage disposal
7 facility, which would also include a sludge manage --
8 management plan, as requested in recommendation number 4.
9 AANDC also would like to stress the importance of
10 defining routine inspections schedule as an associated
11 maintenance of infrastructure.

12 Operation and maintenance plans should be
13 made available to employees at each of the facility and,
14 therefore, can be prepared as two (2) separate documents:
15 one for the solid waste disposal facility, and one for
16 the sewage waste facility. The plans should be revised
17 annually, and any change in operation or technology
18 should be submitted as part of the Town's annual report.
19 Defined and updated operation and maintenance procedures
20 will contribute to successful operation by the Town's
21 personnel.

22 Structure and content of O&M plan. An O&M
23 -- sorry, an oper -- operation and maintenance plan is
24 used as a guiding tool to assist the Town in meeting its
25 water licence objectives. AANDC's next recommendation is

1 to ensure that current and future version of their O&M
2 plans agrees with the Government of the Northwest
3 Territories Municipal and Community Affairs 1996
4 guidelines for the preparation of an operation and
5 maintenance manual for sewage and solid waste disposal
6 facilities in the Northwest Territories.

7 O&M plan SNP stations map. The SNP map
8 has been added as a water licence requirement in other
9 jurisdictions, and brings a visual reference to the
10 locations of the SNP stations. It can also identify the
11 location where sewage and landfill waste are temporarily
12 stored, as well as receiving water bodies. These
13 elements help visualize how runoff can influence
14 movements of waste.

15 When a wetland is present, as with the
16 current application, a map also helps to visualize the
17 treatment path that is being used towards the receiving
18 water body - in this case, towards the Slave River. All
19 of these components, abovementioned, will help to see how
20 current SNP stations have been established.

21 Wastewater management. Mr. Chair, the
22 following recommendation has been suggested and approved
23 in 2009, during two Type 'A' water licence renewal
24 process for Hay River and Yellowknife. The Town
25 currently tests for biological oxy -- oxygen demand, BOD,

1 at SNP station 567/2. Currently, the CCME municipal
2 wastewater strategy for the treatment of municipal
3 wastewater effluent uses CBOD as an indicator for the
4 quality of municipal wastewater.

5 AANDC recommend that both parameters be
6 assembled for a specified period of time within the
7 renewed water licence. This would maintain the existing
8 long-term BOD data set collected by the Town but also
9 have a period of overlap with CBOD analysis, which would
10 provide information relevant to the upcoming CCME
11 requirement, as well as provide a relationship to the
12 long-term BOD data set.

13 AANDC recommends that CBOD be added to the
14 list of parameters sampled at SNP-567-2 in Part B,
15 Section 1, of the SNP section of the current water
16 licence for a minimum period of three (3) years. After
17 the three (3) years period, the Town should provide a
18 trend analysis to the Board for review and approval and
19 sampling requirements should be revisited.

20 Impacts from landfill to groundwater.
21 Groundwater monitoring data has been collected at SNP-
22 567-5 since 2001. The 2008 solid waste disposal facility
23 surve -- surveillance network monitoring report by IEG
24 states that:

25 "In the absence of any data indicating

1 that there is geological variation
2 across the site from south to north,
3 the elevated salt and metal
4 concentrations suggest impact to
5 groundwater from the landfill."

6 AANDC believe that the issue of impact to
7 groundwater warrants further consideration and provides
8 the following recommendation. AANDC recommend that the
9 Town of Fort Smith should submit a groundwater monitoring
10 and protection plan which includes the following:

11 Groundwater monitoring location, parameter sample and
12 sampling frequency, comparison of results to applicable
13 standards, evaluation of risk to potential receptors, and
14 if necessarily with all that information, evaluation of
15 any remedial or preventive measures to be required.

16 Hazardous waste management plan. During
17 the technical session hosted in -- on June, 2011, the
18 Town recognized the need for hazardous waste to be better
19 managed at the solid waste disposal facility. The
20 development of a hazardous waste management plan will
21 enable the Town to better understand its role and
22 responsibility in accepting or refusing hazardous waste
23 at its landfill.

24 Therefore, AANDC recommends that part H
25 condition applying to operational and maintenance be

1 updated to include a hazardous waste management plan.
2 This plan should be completed according to GNWT-ENR 2009
3 developing a community hazardous waste management plan.

4 Landfarm operating procedures. As
5 described in recommendation number 2, recommendation 15
6 may not be effective for the renewal of this current
7 water licence application but will become an important
8 requirement if when approved with the current type of --
9 the current type A water licence as an amendment or under
10 a different water licence.

11 An operation and maintenance plan for land farming
12 activity would promote adoption of best practices of
13 contaminated soil treatment procedures.

14 Effluent quality criteria. AANDC's
15 position is that mixing zone may be an acceptable method
16 of managing effluent discharges and that condition
17 leading to chronic toxicity may be encountered within the
18 mixing zone boundary. However, AANDC does not support
19 the consent of a mixing zone with -- within which acute
20 toxicity would be encountered.

21 Method for reducing all parameters to
22 levels that are not acutely toxic at the end of the
23 discharge pipe must be fully evaluated.

24 AANDC is currently reviewing the report by
25 Golder Associate and will submit a more detailed

1 assessment in writing with its concluding remarks
2 following the hearing.

3 Mr. Chair, in conclusion, AANDC
4 respectfully submit to the Board all of its
5 recommendation which are, or will become important term
6 of -- and condition of the Town of Fort Smith new water
7 licence.

8 Mr. Chair, thank you for the opportunity
9 to speak today. And we're open to any questions that the
10 Board or other party may have on our presentation.

11 THE CHAIRPERSON: Great. Thank you for
12 your very informative presentation. And we will start
13 off with questioning, starting with the Town of Fort
14 Smith.

15

16 (BRIEF PAUSE)

17

18 QUESTION PERIOD:

19 MR. JEAN SOUCY: Thank you, Mr. Chair.
20 Jean Soucy. At this time the Town does not have any
21 responses to Environment Canada or...

22 THE CHAIRPERSON: Okay. That's include
23 -- that includes all three (3) of yourselves?

24 MR. JEAN SOUCY: Yes.

25 THE CHAIRPERSON: Okay. Thank you. We

1 will then go to ENR.

2 MR. TODD PAGET: Todd Paget, ENR. Just a
3 -- a couple quick questions just for clarification maybe
4 if I may. Should I go somewhere, or sit somewhere? I'm
5 not sure. Okay. I got to hold up a book then at the
6 same time.

7 I -- I just was hoping to get
8 clarification on a couple quick things. The -- one (1)
9 slide with respect to disposal of treated sludge, I -- I
10 don't have the wording specifically of the intervention
11 in front of me, but I just -- could you just repeat what
12 the assessment was with respect to how the sewage sludge
13 is included in the current scope of the licence,
14 specifically with respect to disposal.

15 THE CHAIRPERSON: Thank you for that.
16 Then back to Environment Canada -- sorry, AANDC.

17 MS. JEANNE ARSENAULT: It's under Part A,
18 1B, which state that:

19 "The licence is issued subject to the
20 condition contained herein with respect
21 to the taking of water and the
22 depositing of waste of any type in any
23 water or in any place."

24 MR. TODD PAGET: So that's just with
25 respect to the -- the sewage lagoon, not solid waste or

1 any other form of waste?

2 THE CHAIRPERSON: I'm sorry, you'll
3 still have to identify yourselves even though --

4 MR. TODD PAGET: I'm sorry. Pardon
5 me. Todd Paget, sorry, Mr. Chair.

6 MS. JEANNE ARSENAULT: Jeanne Arsenault
7 with -- I was going to say INAC -- AANDC.

8 In -- in the presentation it was stating
9 that the sludge as a byproduct of sewage waste would be
10 considered as a waste in the scope of the water licence.

11 MR. TODD PAGET: Okay. I -- I guess --
12 Mr. Chair, Todd Paget, ENR. It was just to clarify.

13 I wasn't sure on the -- the context of how
14 that worked. If it's just for sewage sludge it maybe
15 perhaps an argument. But if we took that argument
16 verbatim as it is, then any waste deposited would meet
17 the same criteria and, hence, the scoping of the landfarm
18 would be included too if that test was consistent, so
19 that was just my point there.

20 And I guess the other question we had
21 there was we just -- I just noticed that it was
22 discussing the disposal of treated sludge.

23 And I'm wondering if -- is there an idea,
24 or do you have something available to give us an example
25 of what the definition of "treated sludge" would be?

1 THE CHAIRPERSON: Okay. Thank you for
2 those questions. And back to AANDC.

3

4 (BRIEF PAUSE)

5

6 MS. JEANNE ARSENAULT: This is Jeanne
7 Arsenault with AANDC. We understand that the treatment,
8 or the treated sludge would be the product that comes out
9 after the sludge treatment procedures have occurred,
10 after the drying bed, and the period of approximately two
11 (2) years that the Town of Fort Smith is currently
12 practising.

13 THE CHAIRPERSON: Okay. Thank you.
14 Further, Todd?

15 MR. TODD PAGET: Todd Paget, ENR. Mr.
16 Chairman, thank you. Yeah, just because of
17 clarification, the -- the definition of "treated sludge"
18 versus "untreated sludge," digested stabilized sludge, is
19 something that's actually, I think, established to a
20 certain extent nationally.

21 And, generally speaking, we would suggest
22 that that would have to be accessed to determine whether,
23 for example, primary treatment cell sludge that's dredged
24 out meets that definition. Hence, the applicability of
25 whether it's treated sludge or not, and it should be

1 disposed of particularly offsite still retains its
2 questioning from us.

3 And that's it. Just to make that point.
4 Thank you.

5 THE CHAIRPERSON: Okay. Thanks. Any
6 response?

7 MS. JEANNE ARSENAULT: Jeanne Arsenault
8 from AANDC. In clarifying maybe our recommendation, or
9 intent is that if -- if the -- the treated sludge
10 wouldn't meet the requirements, the guide -- the
11 guidelines that we mentioned, or the -- also the biosol -
12 - if further -- more appropriate guidelines comes which
13 would be more appropriate to evaluate -- or I should say
14 as they come, which is expected to be in the near future,
15 those would be more appropriate guidelines perhaps to
16 compare it to.

17 And so what we're saying is if the -- the
18 sludge is being evaluated and is not meeting those
19 guidelines, then the disposal would have to be
20 reassessed.

21 THE CHAIRPERSON: Thank you for that.
22 Todd, response, or are you happy with that? Okay.

23 Then we will go to Environment Canada.

24 MS. MARY KELLY: This is Mary Kelly with
25 Environment Canada. We have no questions at this time.

1 Thank you.

2 THE CHAIRPERSON: Thank you. Then we
3 will go to the general public. Any questions? If not,
4 then we will go to the Board staff.

5 DR. KATHY RACHER: Kathy Racher for the
6 Board. I just have one (1) question, and it's the same
7 question I've asked everyone else. I just wanted your
8 opinion.

9 You've recommended a groundwater
10 monitoring and protection plan for the landfill, and I'm
11 just, again, wondering as you didn't state specifically
12 whether that should replace the current groundwater
13 monitoring requirements in the SNP entirely.

14 THE CHAIRPERSON: Okay. Thanks. And
15 over to AANDC.

16

17 (BRIEF PAUSE)

18

19 MS. JEANNE ARSENAULT: We're not --
20 sorry, Jeanne Arsenault with AANDC. AANDC wouldn't be
21 opposed, but would feel that it's much premature to take
22 such a stand. There will be much further evaluation that
23 will -- assessment that will need to be made to validate
24 that decision, such as making sure that all of the
25 receptors are being identified, and that the level of

1 risk is being assessed.

2 THE CHAIRPERSON: Thank you. Further
3 from the Board?

4 MR. ZABEY NEVITT: Zabey Nevitt with the
5 Board. Just one (1) question: Does your department have
6 a recommendation on the term of the licence?

7

8 (BRIEF PAUSE)

9

10 MS. JEANNE ARSENAULT: Jeanne Arsenault
11 with AANDC. No, we don't have a -- no recommendation on
12 the term of the licence.

13 THE CHAIRPERSON: Okay. Thank you for
14 that. Further from the Board?

15

16 (BRIEF PAUSE)

17

18 THE CHAIRPERSON: Well, that brings us to
19 our closing remarks, then, from our -- closing remarks,
20 or remarks from the Board members. Floyd...?

21 MR. FLOYD ADLEM: I don't have any
22 questions, Mr. Chair.

23 THE CHAIRPERSON: Pat...?

24 MR. PAT LAROCQUE: I have no questions,
25 Mr. Chair, thank you.

1 THE CHAIRPERSON: Keyna...?

2 MS. KEYNA NOWEGIAN: No, I have no
3 questions.

4 THE CHAIRPERSON: That was easy. It does
5 bring us to any parties wishing to make some closing
6 remarks and we're starting with the Town of Fort Smith,
7 also remembering that we are accepting written format.
8 We'll give you some times in our -- in our closing
9 remarks.

10

11 (BRIEF PAUSE)

12

13 THE CHAIRPERSON: And I guess, generally
14 in the closing remarks, we usually have the -- in this
15 case, Town of Fort Smith, go last on the closing remarks.
16 So then we'll go to ENR.

17

18 CLOSING COMMENTS BY GNWT-ENR:

19 MR. TODD PAGET: Todd Paget, ENR. Mr.
20 Chair, thank you very much. Just maybe a quick question
21 or clarification with respect to the timeframe for the
22 written allowance for closing, before I say anything
23 here.

24

25 THE CHAIRPERSON: It'll be in -- in our
closing remarks, but we're looking at July 29th, and for

1 the Town of Fort Smith, August 4th.

2 MR. TODD PAGET: Todd Paget, ENR. Thank
3 you. We'll probably supply additional information at
4 that time to -- to help follow up on -- on a couple of
5 things here, so I won't go into, you know, great detail
6 on it here. We'll provide a little more information on
7 sewage sludge. I think some of this should be clarified
8 -- definitions, et cetera -- and we'll prov -- we're
9 planning on providing a little more clarity with respect
10 to our recommendation of the groundwater modelling and
11 the idea that it's the plan first, then the monitoring,
12 generally.

13 Also, we'll clarify and maybe provide an
14 additional reference, or maybe an example of an interim
15 closure reclamation plan for -- for the aid of the Town
16 and the Board. So -- but that's just to give the heads
17 up that that's what we think we're going to do at this
18 time. Other than that, thank you very much for the
19 opportunity to come here for myself and Diep and ENR, and
20 we look forward actually to working, again, more closely.

21 Any follow-up questions or discussions
22 after this is welcome, to try to figure out any other
23 possible relationships or meetings or activities that may
24 help facilitate moving forward on any of the issues
25 associated with the landfill that the Town has that we

1 can help with. Other than that, thank you. Marsi cho.

2 THE CHAIRPERSON: All right. Thank you
3 for those remarks, and we'll now go to Environment
4 Canada.

5

6 CLOSING COMMENTS BY ENVIRONMENT CANADA:

7 MS. MARY KELLY: This is Mary Kelly with
8 Environment Canada. Again, we will be providing written
9 comments, and we'll specifically address the -- the
10 Golder report in those comments.

11 I did want to take a moment here, though,
12 to commend the Town of Fort Smith, and recognize that
13 there is a great deal of infrastructure work that has
14 gone on, and a great deal of monitoring that has gone on.
15 And I just wanted to highlight that as a very good thing.

16 Our recommendations for the water licence
17 are to move the Town through the water licencing process
18 to improve the operation and management, and to have a
19 clear understanding of the systems that they depend on
20 for handling these different types of waste.

21 And so, through this process, I believe
22 we've filled in some of the information gaps, but we've
23 also identified more information gaps, so we'll have more
24 comments and specific recommendations in our closing
25 comments, but I did want to take a moment to say that it

1 is -- the work that's been done on the infrastructure and
2 monitoring is very good. Thank you.

3 THE CHAIRPERSON: Okay. Thank you for
4 those closing remarks. Now we'll go to Aboriginal
5 Affairs and Northern Development Canada.

6

7 CLOSING COMMENTS BY ABORIGINAL AFFAIRS AND NORTHERN
8 DEVELOPMENT CANADA:

9 MS. MARIE ADAMS: Just a couple of
10 remarks. Marie Adams from Aboriginal Affairs and
11 Northern Development Canada.

12 We will be providing written comments on
13 the Golder memorandum report and they're just conducting
14 our critical analysis right now.

15 We also want to take the opportunity to
16 make the comment that with the Application and the
17 consideration of the Mackenzie Valley Land and Water
18 Board's EQC guidelines, these municipal issues will come
19 up from time to time with other -- other water licences,
20 and so we do support ENR's recommendation for a technical
21 working group, and will be happy to sub -- to -- to
22 participate in such a group if it is set up, whether it
23 is with the Board formally or outside of the Board's
24 management. And for groundwater, I'm reminded.

25 I think that's it. Thank you very much

1 for giving us the opportunity to -- to present to you,
2 and that's it.

3 THE CHAIRPERSON: Great. Thank you for
4 that. And now we'll go to the Town of Fort Smith.

5

6 CLOSING COMMENTS BY TOWN OF FORT SMITH:

7 MR. JEAN SOUCY: Thank you, Mr. Chair.
8 Jean Soucy for the Town of Fort Smith. We will be
9 submitting our written remarks by August 9th, but we have
10 a -- I'm sorry, August 4th. I wrote down 9th, sorry

11 I'd like to introduce you to our mayor,
12 Mayor Hobart, who will -- has closing remarks for the
13 Board on behalf of the Town of Fort Smith. Thank you.

14 MAYOR JANE HOBART: Mr. Chair, members of
15 the Board, I appreciate the opportunity to speak today.
16 The Town of Fort Smith has successfully fulfilled the
17 eight (8) year mandate of its current water licence. The
18 Town staff should be congratulated for their efforts in
19 fulfilling this mandate under demanding circumstances, at
20 least one (1) occasion, and for the most part on -- with
21 a great deal of forethought on other occasions.

22 The demanding occasion was the 2005
23 landslide, which caused the destruction of the sewer
24 lagoon discharge. The other occasions were much more
25 routine, such as the improvements to the intake

1 pumphouse, and the pipeline in 2008, the water treatment
2 plant improvements in 2008, the sewer rehabilitation work
3 which was completed last year, the ongoing work on the
4 sewage lift stations, and the operation and maintenance
5 of our Town landfill.

6 The Town actively supports improvements to
7 its infrastructure in both the facilities themselves
8 through capital expenditures, and the operation and
9 maintenance of these facilities. Additionally, we place
10 a very high priority on the constant training of our
11 staff.

12 The Town recognizes that this work must be
13 undertaken in an incremental manner with steps that are
14 consistent with the needs of the community, as well as
15 the ongoing changes in regulatory requirements. The CCME
16 wastewater guidelines are one (1) example of change which
17 needs to be incremental, and consistent with the
18 advancing regulations.

19 The northern research working group lead
20 by Environment Canada was mandated to complete research
21 and provide a position on alternate effluent discharge
22 levels for the North by 2013. The imposition of changes
23 to the Town's effluent quality testing for effluent
24 toxicity in advance of this milestone, as provo --
25 proposed by several of the Intervenors, is inconsistent

1 with this mandate.

2 The operation and maintenance of the
3 Town's landfill, in particta -- particular, its
4 groundwater testing, is a responsibility that the Town
5 does take very seriously. Past testing has been
6 consistently well within the parameters of the current
7 licence. At the same time, the Town recognizes the need
8 and opportunity to maximize this operation. It is for
9 this reason the Town has retained counselling resources
10 during the course of the previous water licence mandate
11 and has engaged these same resources during this hearing.

12 The Town strongly repor -- supports a more
13 strategic completion during this hearing. The Town --
14 I'm sorry. The Town strongly supports a more strategic
15 completion of this mandate by sampling from fewer wells
16 and completing fewer tests on these samples, based upon
17 the expert advice of our consultants.

18 We look forward to the Water Board's
19 consideration of the testimony we have provided during
20 the course of this Hearing and we look forward to a
21 proactive discussion on the draft of our new water
22 licence.

23 I would welcome any questions if you had
24 them. Thank you.

25 THE CHAIRPERSON: Thank you for taking

1 time out of your busy schedule, as Mayor of Hay River, to
2 -- Hay River -- sorry, Fort Smith, wrong water licence,
3 to address this. It's much appreciated.

4 Is there further comments from...

5 MR. JEAN SOUCY: Thank you, Mr. Chairman.
6 No further comments at this time. Jean Soucy, from the
7 Town of Fort Smith.

8

9 CLOSING REMARKS BY THE CHAIRPERSON:

10 THE CHAIRPERSON: Great, and thank you.
11 Then on behalf of the Board, I'd like to thank you all
12 for participating in this Type A water licence hearing.
13 The Board does appreciate all the efforts made by the
14 Town of Fort Smith and Intervenors and the participants,
15 to prepare the application and all the technical and
16 other evidence necessary to help us make a water
17 licensing decision.

18 We must remind you that there's still a
19 lot of work to be completed before a licence can go to
20 the Minister of AANDC. Timelines are very tight and we
21 ask you to be diligent in reviewing the record,
22 commenting on the draft licence, and assisting the Board
23 to make a good decision.

24 In recognition that some of the materials
25 were received by the Board too late for inclusion in

1 interventions or for a thorough review, the Board will be
2 accepting written closing comments in regards to this
3 Hearing. These will be due by the 5th of -- sorry, 5:00
4 p.m. on July 29th, 2011. The Town of Fort Smith can
5 provide closing comments by August 4th.

6 I will now ask legal counsel, John
7 Donihee, to provide direction on the nature of the
8 closing comments.

9 MR. JOHN DONIHEE: Thank you, Mr.
10 Chairman. John Donihee, for the Board. Normally closing
11 comments are provided at -- orally at the end of the
12 hearing, as they just have been, but, in this case, as
13 the Chairman has explained, in order to ensure a fair
14 proceeding, the Board decided to allow additional written
15 closing comments on the timeline just set out. There are
16 no undertakings to be filed and transcripts will be on
17 the registry within a few days.

18 The parties have had the chance to both
19 hear and question Golder Associates this morning and to
20 have a thorough exchange during the course of the day.

21 These final written submissions are not
22 intended to include new evidence. They are the party's
23 opportunities -- or opportunity to make argument, to
24 comment on the evidence that has been heard, and, if
25 necessary, to adjust any recommendations made to the

1 Board based on the hearing and the transcripts. Final
2 submissions are your opportunity to argue for a
3 particular outcome, requirement, or condition in the
4 licence, or to advise the Board as to why you don't feel
5 that some of the recommendations may be necessary. Now,
6 that must be done on the basis of the evidence already on
7 the record and the transcripts.

8 So I think that describes -- I hope that
9 describes what the Board is expecting from the parties by
10 way of the written comments, as identified by the
11 Chairman.

12 THE CHAIRPERSON: Thank you for that,
13 John. And as you all know, this is an application for a
14 Type A water licence and the final decision is made by
15 the Minister of AANDC, and all parties have access to the
16 Board's work plan.

17 In the weeks following this Hearing, Board
18 staff will prepare and distribute a draft water licence
19 for your review and comment. The Board will review all
20 comments on the draft water licence. We will then make a
21 decision on the final water licence and reasons for
22 decision will be sent to the Minister of AANDC for
23 approval.

24 The Board relies on all parties to prepare
25 thoroughly and come to its hearings prepared to address

1 any issues within their mandate.

2 The Board's process enables that there is
3 every opportunity to work collaboratively to find
4 solutions, but the hearing process is not designed to be
5 a collaborative experience. The hearing process is an
6 inquiry process to assist the Board in making the best
7 licencing decision possible.

8 All parties must understand when you ask
9 the Board to do something, or make a recommendation, that
10 they have the onus of responsibility to produce enough
11 evidence to convince the Board to accept their
12 recommendations. No matter what the Board's views may
13 be, the legal framework means that the Board cannot make
14 a decision on trust alone. If a party does not provide
15 enough evidence to convince the Board, they are not going
16 to succeed with their recommendations.

17 In closing, we'd like to thank the Town of
18 Fort Smith and the -- and the -- the Mayor for -- kind
19 enough to come and join us, Aboriginal Affairs and
20 Northern Development Canada, Environment Canada, the
21 Government of the Northwest Territories, ENR.

22 And we'd also like to thank our
23 interpreters for their patience and hard work in
24 translating, especially to the speed of which Todd and I
25 talk.

1 And I would like to thank our court
2 reporter, Wendy, and Trevor our sound technician, for all
3 their work today. It's very much appreciated.

4 And as always, thanks to our executive
5 director, all his staff, and in particular our legal
6 counsel.

7 And I would also like to thank our
8 caterers. This is one of the best lunches I can remember
9 having at a hearing. We -- it was very excellent.

10 And on -- to all of you we'd like to thank
11 you for your courtesy and your respect that you -- you've
12 shown for each other. And of course, in particular I'd
13 like to thank the Board here for their dedication and
14 hard work that makes everybody's jobs easier, and
15 particularly mine, a lot easier.

16 And thank you all. We will have a -- a
17 closing prayer and then we will adjourn the meeting.

18

19 (CLOSING PRAYER)

20

21 THE CHAIRPERSON: And thank you all,
22 once again. And the Public Hearing is adjourned.

23

24 --- Upon adjourning at 4:05 p.m.

25

1 Certified correct,

2

3

4

5

6

7 Wendy Warnock, Ms.

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25