Paul Dever <Paul.Dever@crewenergy.com>

Sent:

2017, June 14 10:25 AM

To:

Rigbey, Stephen; Watson, Andrew; Gilliss, Scott; Oswell, Terry; (19), (22)

Cc:

Kevin Evers

Subject:

Crew Energy / BC Hydro

Morning all,

Thanks to all for making the time to attend the meeting last Friday. We found it very beneficial and welcomed the opportunity to share our learnings.

During the meeting there was a request to visit a Crew padsite and observe completion activity taking place.

In speaking to our Drilling and Completions Manager, Crew will be able to accommodate the request.

Please let me know who is interested and we will start to work on the timing for a site visit.

Thanks again,

Paul

Paul A. Dever Director, Government & Stakeholder Relations Crew Energy Inc. Suite 800 250 - 5th Street SW Calgary, Alberta T2P 0R4

Bus 403.231.3697

(22)

Fax 403.266.6259

paul.dever@crewenergy.com<mailto:paul.dever@crewenergy.com

Rigbey, Stephen

Sent:

2017, July 26 9:17 AM

To:

Ahlfield, Kay; Hartford, Desmond; Mainprize, Eric; Oswell, Terry; Seki, Frank; To, Peter;

Gilliss, Scott; Addo, Kofi

Subject:

FW: Site C exclusion zone

Fyi, confirmation that the OGC actually did send out a formal notice...

From: "Jeakins, Paul" < Paul. Jeakins@bcogc.ca>

Date: July 26, 2017 at 8:45:05 AM PDT

To: Dave Nikolejsin < Dave.Nikolejsin@gov.bc.ca >, "O'Riley, Christopher" < Chris.Oriley@bchydro.com >

Cc: "MacLaren, Les MEM:EX" < Les.MacLaren@gov.bc.ca>, "Piccinino, Ines MNGD:EX"

< Ines. Piccinino@gov.bc.ca>

Subject: RE: Site C exclusion zone

Just so everyone is aware, we sent out the following on Jan. 11:

The Commission has been working with BC Hydro to understand current and future concerns regarding oil and gas activities in proximity to their existing (WAC Bennett and Peace Canyon Dams) and future (Site C dam) infrastructure with a primary focus on induced seismicity. The Commission has put permit conditions into place that require well permit holders within 5km of the WAC Bennett, Peace and/or Site C dam locations to notify BC Hydro of drilling and completion activities. The affected areas match the 5km Tenure buffer zones that MNGD put into place in March of 2014. The emphasis is to increase communication between oil and gas operators and BC Hydro and to ensure that oil and gas operations do not conflict with the construction and operation of dam infrastructure. The permit conditions are similar to those already in place for the Aitken Creek Gas Storage Facility. The specific conditions can be found below, along with a map of the areas where they will be applied.

Conditions:

- 1. The permit holder must notify BC Hydro and Power Authority, no more than 45 days and no less than 21 days in advance, of any of the following actions to be taken by the permit holder:
- a. beginning the drilling of the well; or
- b. commencement of completion or recompletion operations.

Notifications must be sent to <u>DSOP@bchydro.com</u>, with the subject line *BC Hydro Dam Buffer Notification*.

- 2. If, as a result of a notification under the previous condition, BC Hydro indicates concerns with the planned drilling or completion activity, the permit holder must not begin the activity until they have reported the concerns to the Commission and received approval to proceed.
- 3. The permit holder must not conduct any drilling, completion or well operations authorized by this permit in a manner that has a material adverse impact on the construction, use, or integrity of the **IWAC Bennett**. **Peace Canyon**. **Site 'C'!** dam

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From: Nikolejsin, Dave MNGD:EX [mailto:Dave.Nikolejsin@gov.bc.ca]

Sent: Tuesday, July 25, 2017 6:57 PM

To: O'Riley, Christopher < Chris.Oriley@bchydro.com>

Cc: MacLaren, Les MEM:EX < Les. MacLaren@gov.bc.ca >; Piccinino, Ines MNGD:EX

<Ines.Piccinino@gov.bc.ca>; Jeakins, Paul <Paul.Jeakins@bcogc.ca>

Subject: RE: Site C exclusion zone

Thanks Chris, very helpful. We will be doing this policy work in parallel with the site C review.

From: O'Riley, Christopher [mailto:Chris.Oriley@bchydro.com]

Sent: July 25, 2017 4:08 PM

To: Nikolejsin, Dave MNGD:EX < <u>Dave.Nikolejsin@gov.bc.ca</u>>

Subject: Site C exclusion zone

Hi Dave,

We are aware, based on our discussions with Crew Energy, that there will be fracking this summer just at the 5 km exclusion zone with respect to Site C. Given the status of the infrastructure at Site C and the proximity of the proposed fracking, we have no current concerns in regards to this activity. Therefore, any further restrictions on fracking from existing tenures within the 5 km zone can be dealt with after the completion of the upcoming Site C review.

In regards to the scientific/engineering basis for this request, there is an emerging scientific consensus that a no frack zone of 5 km is appropriate. You can find further information at: http://www.inducedseismicity.ca/wp-content/uploads/Atkinson2017-FACETS.pdf.

It is also worth noting that through this process, Crew Energy has been incredibly collaborative and forthright regarding their intentions and as a result BC Hydro has built a solid working relationship with them.

Let me know if you have any further questions,

Chris

Addo, Kofi

Sent:

2017, March 10 9:22 AM

To:

Gilliss, Scott

Subject:

FW: BC Hydro Dam Buffer Notification

Attachments:

BC OGC BC Hydro Dam Notification.pdf

FYI ONLY

From: Oswell, Terry

Sent: 2017, March 09 3:01 PM **To:** Addo, Kofi; Rigbey, Stephen

Subject: FW: BC Hydro Dam Buffer Notification

FYI – letter from OGC to Crew Energy

From: Oswell, Terry

Sent: 2017, March 09 2:44 PM

To: Van Gassen, Wim

Subject: FW: BC Hydro Dam Buffer Notification

From: Paul Dever [mailto:Paul.Dever@crewenergy.com]

Sent: 2017, January 27 12:04 PM **To:** Oswell, Terry; Watson, Andrew

Subject: BC Hydro Dam Buffer Notification

Good afternoon,

Crew Energy was recently notified by the OGC regarding additional notification requirements in proximity to BC Hydro dam locations.

I will be in Vancouver next week and would like the opportunity to meet if schedules allow.

Crew is hoping to gain a better understanding of BC Hydro's requirements for notification and timelines Crew can expect in response. I will also be able to go over an area map showing Crew's activity in proximity to the Site C buffer area.

Regards,

Paul

Paul A. Dever Director, Government & Stakeholder Relations Crew Energy Inc. Suite 800 250 - 5th Street SW

Calgary, Alberta T2P 0R4

Bus 403.231.3697

Fax 403.266.6259

paul.dever@crewenergy.com<mailto:paul.dever@crewenergy.com





January 11, 2017

RE:

PERMIT CONDITIONS PEACE REGION CONSULTATION WITH BC HYDRO

To Whom It May Concern,

The Commission has been working with BC Hydro to understand current and future concerns regarding oil and gas activities in proximity to their existing (WAC Bennett and Peace Canyon Dams) and future (Site C dam) infrastructure with a primary focus on induced seismicity. The Commission has put permit conditions into place that require well permit holders within 5km of the WAC Bennett, Peace and/or Site C dam locations to notify BC Hydro of drilling and completion activities. The affected areas match the 5km Tenure buffer zones that MNGD put into place in March of 2014. The emphasis is to increase communication between oil and gas operators and BC Hydro and to ensure that oil and gas operations do not conflict with the construction and operation of dam infrastructure. The permit conditions are similar to those already in place for the Aitken Creek Gas Storage Facility. The specific conditions can be found below, along with a map of the areas where they will be applied.

Please contact Jeff Johnson or Stuart Venables, if you require any further information or clarification. These permit conditions went into effect on January 11, 2017.

Stuart Venables, P.Geo Sr. Petroleum Geologist (250) 419-4472 stuart.venables@bcogc.ca

Jeff Johnson, P.Geo Supervisor, Petroleum Geology (250) 419-4422 jeff.johnson@bcogc.ca

Permit Conditions:

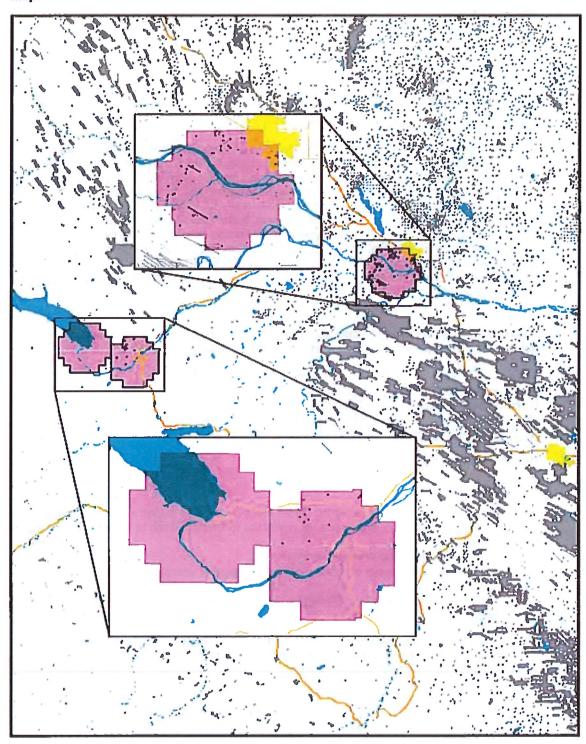
Conditions:

- The permit holder must notify BC Hydro and Power Authority, no more than 45 days and no less than 21 days in advance, of any of the following actions to be taken by the permit holder:
 - a. beginning the drilling of the well; or
 - b. commencement of completion or recompletion operations.

Notifications must be sent to <u>DSOP@bchydro.com</u>, with the subject line *BC Hydro Dam Buffer Notification*.

- If, as a result of a notification under the previous condition, BC Hydro indicates concerns
 with the planned drilling or completion activity, the permit holder must not begin the
 activity until they have reported the concerns to the Commission and received approval to
 proceed.
- The permit holder must not conduct any drilling, completion or well operations authorized by this permit in a manner that has a material adverse impact on the construction, use, or integrity of the [WAC Bennett, Peace Canyon, Site 'C'] dam.

Map:



Watson, Andrew

Sent:

2017, May 09 7:48 AM

To:

Rigbey, Stephen

Oswell, Terry; (19), (22)

Cc:

Addo, Kofi; Gilliss, Scott

Subject:

Re: BC Hydro Dam Buffer Notification

Thx terry/Steven

I believe we also discussed these points

Also looking for

description of hole location, subsurface orientation/length and timing to the extent these are know description of the geological horizons and any history of induced seismicity in nearby or in similar settings. If there is no history of induced seismicity in similar boreholes it would be useful to summarize the number and location that have been completed already with no evidence of induced seismicity. Thx

Sent from my iPhone

>>

>>

>>

- > On May 8, 2017, at 8:36 PM, Rigbey, Stephen < Stephen.Rigbey@bchydro.com wrote:
- > Terry, you are on the right track. Please coordinate with and the others and provide a response in my absence. Thanks
- > Stephen Rigbey. From my iPhone, apologies for brevity
- >> On May 8, 2017, at 11:49, Oswell, Terry <Terry.Oswell@bchydro.com> wrote:
- >> I had a couple things in my notes that we wanted from Crew:
- >> We want to know what the time histories might look like so that structures can be assessed (btw I don't think Paul knows what a time history is)
- >> We would like a description of the protocols that Crew will follow for a fracking induced earthquake
- >> We want to understand how Crew mitigates the risk of causing an earthquake in the boreholes
- >> Anything else? Please correct above notes if necessary.
- >> ----Original Message-----
- >> From: Paul Dever [mailto:Paul.Dever@crewenergy.com]
- >> Sent: 2017, May 08 5:27 AM
- >> To: Oswell, Terry; Rigbey, Stephen; (19), (22) Addo, Kofi; Watson, Andrew; Gilliss, Scott; Venables, Stuart
- >> Subject: Re: BC Hydro Dam Buffer Notification

```
>>
>> Good morning.
>>
>> I am following up on the previous e-mail to confirm any go-forward action items.
>>
>>
>> Regards
>>
>> Paul
>> Sent from my iPhone
>>
>> On Apr 28, 2017, at 11:20 AM, Paul Dever
<<u>Paul.Dever@crewenergy.com</u><mailto:Paul.Dever@crewenergy.com>> wrote:
>> Good morning all,
>>
>> This is in follow-up to our meeting held on March 22, 2017.
>> Although no direct take-away items were discussed, is there anything that Crew is able to assist with or
would BC Hydro like another meeting to obtain a greater understanding of Crew's current or proposed
activities?
>>
>>
>> Regards,
>>
>> Paul
>>
>>
>> Paul A. Dever
>> Director, Government & Stakeholder Relations Crew Energy Inc.
>> Suite 800 250 - 5th Street SW
>> Calgary, Alberta T2P 0R4
>>
>> Bus 403.231.3697
>>(22)
>> Fax 403.266.6259
>>
paul.dever@crewenergy.com<mailto:paul.dever@crewenergy.com<mailto:paul.dever@crewenergy.com%3c
mailto:paul.dever@crewenergy.com>
```

>>

Oswell, Terry

Sent:

2017, May 11 8:13 AM

To:

Paul Dever; Rigbey, Stephen (19), (22)

; Addo, Kofi; Watson, Andrew; Gilliss,

Scott; Venables, Stuart

Subject:

RE: BC Hydro Dam Buffer Notification

Hi Paul,

Sorry, I spoke too soon. May 29th doesn't work after all. I'll get back to you with a date as soon as I can.

Cheers, Terry

From: Oswell, Terry

Sent: 2017, May 10 4:12 PM

To: 'Paul Dever'; Rigbey, Stephen; (19), (22

Addo, Kofi; Watson, Andrew; Gilliss, Scott; Venables, Stuart

Subject: RE: BC Hydro Dam Buffer Notification

Hi Paul,

May 29th after 2 PM is the first time that is free for everyone. Will that work for you?

Cheers,

Terry

From: Paul Dever [mailto:Paul.Dever@crewenergy.com]

Sent: 2017, May 10 3:52 PM

To: Oswell, Terry; Rigbey, Stephen (19), (22) Addo, Kofi; Watson, Andrew; Gilliss, Scott; Venables, Stuart

Subject: RE: BC Hydro Dam Buffer Notification

Afternoon Terry,

Thanks for your e-mail.

I think it would be best if we meet in person in the event that additional questions come up.

What is your schedule like for a meeting?

Regards,

Paul

Paul A. Dever Director, Government & Stakeholder Relations Crew Energy Inc. Suite 800 250 - 5th Street SW Calgary, Alberta T2P 0R4 Bus 403.231.3697 (22)

Fax 403.266.6259

paul.dever@crewenergy.com<mailto:paul.dever@crewenergy.com

From: Oswell, Terry [mailto:Terry.Oswell@bchydro.com]

Sent: Wednesday, May 10, 2017 11:40 AM

To: Paul Dever < Paul. Dever@crewenergy.com>; Rigbey, Stephen < Stephen. Rigbey@bchydro.com

(19), (22)

(19), (22)

; Addo, Kofi < Kofi.Addo@bchydro.com>; Watson, Andrew

< Andrew. Watson@bchydro.com >; Gilliss, Scott < Scott. Gilliss@bchydro.com >; Venables, Stuart

<<u>Stuart.Venables@BCOGC.ca</u>>

Subject: RE: BC Hydro Dam Buffer Notification

Hi Paul,

Thanks for following up. Here is a summary of the information that we are looking for from Crew.

- Description of hole location, subsurface orientation/length and timing to the extent these are known. Description of the
 geological horizons and any history of induced seismicity in nearby or in similar settings. If there is no history of induced
 seismicity in similar boreholes it would be useful to summarize the number and location that have been completed
 already with no evidence of induced seismicity.
- 2. What the time histories might look like so that the response of BC Hydro structures to the induced seismicity can be assessed
- 3. A description of the protocols that Crew will follow for a fracking induced earthquake
- 4. How Crew mitigates the risk of causing an earthquake in the boreholes

Please let me know if you have any questions with the above and if you think another meeting would be beneficial to discuss these further.

Thanks,

Terry

----Original Message----

From: Paul Dever [mailto:Paul.Dever@crewenergy.com]

Sent: 2017, May 08 5:27 AM

To: Oswell, Terry; Rigbey, Stephen; (19), (22); Addo, Kofi; Watson, Andrew; Gilliss, Scott; Venables, Stuart

Subject: Re: BC Hydro Dam Buffer Notification

Good morning.

I am following up on the previous e-mail to confirm any go-forward action items.

Regards

Paul

Sent from my iPhone

On Apr 28, 2017, at 11:20 AM, Paul Dever < Paul.Dever@crewenergy.com wrote:

Good morning all,

This is in follow-up to our meeting held on March 22, 2017.

Although no direct take-away items were discussed, is there anything that Crew is able to assist with or would BC Hydro like another meeting to obtain a greater understanding of Crew's current or proposed activities?

Regards,

Paul

Paul A. Dever Director, Government & Stakeholder Relations Crew Energy Inc. Suite 800 250 - 5th Street SW Calgary, Alberta T2P 0R4

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Fax 403.266.6259

paul.dever@crewenergy.com<mailto:paul.dever@crewenergy.com<mailto:paul.dever@crewenergy.com%3cmailto:paul
.dever@crewenergy.com>

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-BCHvdroDisclaimerID5.2.8.1541

Paul Dever < Paul. Dever@crewenergy.com>

Sent:

2017, June 23 4:43 PM

To:

Watson, Andrew

Cc:

Gilliss, Scott; Rigbey, Stephen; Oswell, Terry;

22)

Kevin Evers

Subject:

Re: Crew Energy / BC Hydro

Hi Andrew,

If we have an operation going on at that time I will let you know and we can line it up.

Have a good weekend.

Paul

Sent from my iPhone

On Jun 23, 2017, at 4:39 PM, Watson, Andrew

<Andrew.Watson@bchydro.com<mailto:Andrew.Watson@bchydro.com>> wrote:

Hi paul

(22)

I'm out of town

I'm scheduled to be in the peace july 26/27 and august 1/2 and a few days the following week. Please don't schedule anything around me but I'll make it if I can.

Cheers

Andrew

Sent from my iPhone

On Jun 21, 2017, at 3:47 PM, Paul Dever

< Paul. Dever@crewenergy.com < mailto: Paul. Dever@crewenergy.com >> wrote:

Afternoon all,

Thanks for everyone's response.

I am currently working to determine the timing of our next completion. At this point we could be completing a couple of wells starting somewhere around July 10th, however this timing is dependent on availability of equipment.

Does this work for all or some?

The padsite is located north of Chetwynd off the Jackfish Road in the Del Rio area.

Paul A. Dever
Director, Government & Stakeholder Relations Crew Energy Inc.
Suite 800 250 - 5th Street SW
Calgary, Alberta T2P 0R4

Bus 403.231.3697

Fax 403.266.6259

<u>paul.dever@crewenergy.com<mailto:paul.dever@crewenergy.com<mailto:paul.dever@crewenergy.com%3c</u> mailto:paul.dever@crewenergy.com>

From: Gilliss, Scott [mailto:Scott.Gilliss@bchydro.com]

Sent: Wednesday, June 14, 2017 4:23 PM

To: Rigbey, Stephen < Stephen.Rigbey@bchydro.com>

Cc: Watson, Andrew <<u>Andrew.Watson@bchydro.com</u><mailto:Andrew.Watson@bchydro.com>>; Paul Dever

<Paul.Dever@crewenergy.com<mailto:Paul.Dever@crewenergy.com>>; Oswell, Terry

<<u>Terry.Oswell@bchydro.com</u><mailto:Terry.Oswell@bchydro.com>>(19), (22)

(19), (22) Kevin Evers

<Kevin.Evers@crewenergy.com<mailto:Kevin.Evers@crewenergy.com>>

Subject: Re: Crew Energy / BC Hydro

I'm interested as well.

Scott

Sent from my iPhone

On Jun 14, 2017, at 11:13 AM, Rigbey, Stephen

<Stephen.Rigbey@bchydro.com<mailto:Stephen.Rigbey@bchydro.com>> wrote:

If I am available, I would also be interested. But don't make any special arrangements to suit my schedule.

Stephen Rigbey. From my iPhone, apologies for brevity

On Jun 14, 2017, at 10:53, Watson, Andrew

> wrote: <a href="mailto:Andrew.Watson

Thanks paul. I'm certainly interested.

We also found the technical briefing very productive. Thanks for arranging that.

Andrew

Sent from my iPhone

On Jun 14, 2017, at 10:25 AM, Paul Dever < Paul.Dever@crewenergy.com < mailto:Paul.Dever@crewenergy.com >> wrote: Morning all,

Thanks to all for making the time to attend the meeting last Friday. We found it very beneficial and welcomed the opportunity to share our learnings.

During the meeting there was a request to visit a Crew padsite and observe completion activity taking place.

In speaking to our Drilling and Completions Manager, Crew will be able to accommodate the request.

Please let me know who is interested and we will start to work on the timing for a site visit.

Thanks again,

Paul

Paul A. Dever Director, Government & Stakeholder Relations Crew Energy Inc. Suite 800 250 - 5th Street SW Calgary, Alberta T2P 0R4

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<u>paul.dever@crewenergy.com<mailto:paul.dever@crewenergy.com<mailto:paul.dever@crewenergy.com%3c</u> mailto:paul.dever@crewenergy.com>

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⁻BCHydroDisclaimerID5.2.8.1541

Paul Dever < Paul. Dever@crewenergy.com>

Sent:

2018, January 08 7:45 AM

To:

Oswell, Terry

Cc:

Rigbey, Stephen; Watson, Andrew; Addo, Kofi; (19), (22)

Gilliss, Scott; Kevin

Evers; 'Stuart.Venables@bcogc.ca'; Johnson, Jeff

Subject:

RE: Draft Conditions

Happy New Year Terry.

In follow-up to our discussion in late December, Crew understands the importance of open and on-going discussion as it relates to respective activities within proximity of the Peace River.

Although there is no requirement for Crew to forward induced seismicity information to BC Hydro, Crew is open to discussing the type and timelines of the requested information with BC Hydro. As the OGC is Crew's regulatory agency, it is important to have the OGC attend these discussions and in speaking with Stu Venables and Jeff Johnson, they are willing to attend any go-forward meetings.

Crew is available to discuss your request and how best to move forward. What does you schedule look like for a meeting in February?

Regards,

Paul

From: Oswell, Terry [mailto:Terry.Oswell@bchydro.com]

Sent: Friday, December 15, 2017 10:29 AM **To:** Paul Dever < Paul. Dever@crewenergy.com >

Cc: Rigbey, Stephen < Stephen.Rigbey@bchvdro.com >: Watson. Andrew < Andrew. Watson@bchydro.com >; Addo, Kofi

<Kofi.Addo@bchydro.com>(19), (22)

: Gilliss, Scott

<<u>Scott.Gilliss@bchydro.com</u>> **Subject:** Draft Conditions

Hi Paul,

We have drafted up some conditions that we would provide to the Oil and Gas Commission once notified of upcoming activity within the 5 km buffer zone. Our initial proposed conditions are as follows:

- If there is an earthquake with magnitude equal to or greater than M_w2 or measured ground motion greater than 0.05g (initial level chosen for discussion), Crew Energy will notify BC Hydro (through DSOP) within 24 hours and provide the date, time, magnitude (Mw), epicenter (latitude, longitude), focal depth and the associated uncertainty. Within two weeks of the event, Crew Energy will provide full SEED files for the event.
- Within 30 days after well operations are complete within the buffer zone, full SEED files for all recordings from earthquakes with-ground motions greater than 0.02g (or 0.008g once the OGC requirement changes) are to be provided to BC Hydro.

We would like to see the template that Crew Energy will use to provide the earthquake occurrence notification to the DSOP.

Could you please review the above and let me know if you would like to meet to discuss.

Thanks, Terry

Terry Oswell | Dam Safety Program Engineer, Dam Safety

BC Hydro 6911 Southpoint Dr, 10th floor Burnaby, BC V3N 4X8

P 604 528 2187

(19), (22)

E terry.oswell@bchydro.com

bchydro.com

Smart about power in all we do.

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Gilliss, Scott

Sent:

2018, December 03 10:31 PM

To:

Vaillancourt, Russell

Cc:

Cryderman, James; Turner, Adam

Subject:

Re: Crew Energy Inc. Notification of Drilling Operations at 3-32-82-19 W6M

Yes you should send them to me and if I have to I can send to site c. Terry also knows what to do but I should see these.

Scott

Sent from my iPhone

On Dec 3, 2018, at 4:24 PM, Vaillancourt, Russell < Russell.Vaillancourt@bchydro.com wrote:

Hi Scott,

Not sure if you want this sent on to you or not? Here it is in case you do.

Thanks,

Russell

Sent from my iPhone

Begin forwarded message:

From: "DSOP" < DSOP@bchydro.com>

To: "Vaillancourt, Russell" < Russell. Vaillancourt@bchydro.com>

Subject: FW: Crew Energy Inc. Notification of Drilling Operations at 3-32-82-19 W6M

From: Paul Dever

Sent: Monday, December 03, 2018 3:59:35 PM (UTC-08:00) Pacific Time (US & Canada)

To: Oswell, Terry; DSOP **Cc:** Venables, Stuart

Subject: Crew Energy Inc. Notification of Drilling Operations at 3-32-82-19 W6M

Afternoon Terry,

As required by the BC Oil and Gas Commission Well Authorization permit conditions, Crew hereby notifies BC Hydro on up-coming drilling activity on Crew's 3-32-82-19 W6M padsite in mid-January 2019. The surface location is approximately 6 kilometres from the Site C. Attached is the padsite survey and consultation mapping for your reference.

Pursuant to clause 34 of OGC Permits:

- Well Authorization # 33502 (Crew HZ Wilder 3-32-82-19 W6M)
- Well Authorization # 33503 (Crew HZ Wilder A3-32-82-19 W6M)
- Well Authorization # 33504 (Crew HZ Wilder B3-32-82-19 W6M)
- Well Authorization # 33505 (Crew HZ Wilder C3-32-82-19 W6M)

- Well Authorization # 33506 (Crew HZ Wilder D3-32-82-19 W6M)
- Well Authorization # 33507 (Crew HZ Wilder E3-32-82-19 W6M)

Crew Energy Inc. ("Crew") hereby notifies BC Hydro and Power Authority ("BC Hydro") of upcoming drilling activities. Crew expects to initiate drilling operations on:

- Well Authorization # 33502 (Crew HZ Wilder 3-32-82-19 W6M) -January 15, 2019
- Well Authorization # 33503 (Crew HZ Wilder A3-32-82-19 W6M) -January 16, 2019
- Well Authorization # 33504 (Crew HZ Wilder B3-32-82-19 W6M) -January 17, 2019
- Well Authorization # 33505 (Crew HZ Wilder C3-32-82-19 W6M) -January 18, 2019
- Well Authorization # 33506 (Crew HZ Wilder D3-32-82-19 W6M) -January 19, 2019
- Well Authorization # 33507 (Crew HZ Wilder E3-32-82-19 W6M) -January 20, 2019

Drilling operations will begin with setting surface casing on each of the six wells captioned above. Upon setting surface casing on the sixth well, main-hole drilling will commence. From surface casing, each well is expected to take approximately 14 days to reach total depth.

The wells will be drilled vertically and then horizontally drill within the Montney formation.

Completion activities will take place after the wells have been drilled and under the same Well Authorization Permit conditions, Crew will send notification to BC Hydro prior to initiating completion activity. Completion activities are expected to take place sometime in mid to late 2019.

Regard	S
--------	---

Paul



Paul Dever

Vice President, Government and Stakeholder Relations

Direct: 403-231-3697

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<CREW HZ WILDER 3-32-82-19 WELLSITE_FINAL.PDF>

<2016-S010.01_CREW HZ WILDER 3-32-82-19 CONSULTATION MAP_FINAL.PDF>