

DAY MONTH YEAR
25-Mar-2009

Application #
1604926

APPLICANT'S FILE NUMBER
Joslyn-Kearl 240kV

SUBMISSION STATUS Registered SUBMISSION ID 195265 CREATION DATE 25-Mar-2009

1. APPLICANT INFORMATION

Primary Applicant

COMPANY NAME ATCO Electric Ltd. BA CODE 0A5Z
 CONTACT NAME Kara Green
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 MAILING ADDRESS 10035-105 Street, Edmonton, AB T5J 2V6

2. PROJECT OVERVIEW

1. Application Description:

Proposed 240kV Line 9L32 Joslyn to Kearl (IORVL)

2. Are there other AUC applications directly related to this application? Yes No

Application Category	Application Type	Application Number (If Known)
<u>Electric</u>	<u>Need Assessment</u>	<u>1604829</u>
<u>Electric</u>	<u>Need Assessment</u>	<u>1604878</u>
<u>Electric</u>	<u>Transmission Lines</u>	<u>1575660</u>
<u>Electric</u>	<u>Transmission Lines</u>	<u>1583822</u>

3. APPLICATION TYPES

1. Identify what this application is for:

Electric Transmission Lines

If you have any questions or comments, please contact the EAS Administrator.

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4. TRANSMISSION LINE

1. Provide the name(s) of all other companies having ownership in the project, details of their incorporation, and the share in the project that each would have.

Company Name: _____ Percentage: _____

Details:

Total other ownership (%)

2. Have you conducted a participant involvement program?

Yes No

If No, explain:

3. Are there outstanding public or industry objection and/or concerns? Yes No

4. Provide Electric Facility ID Number(s):

5. Provide the legal descriptions, including latitudes and longitudes of start and end points of the transmission line.(Provide latitude and longitude coordinate in decimal degrees.)

Start Point of Transmission Line

Lsd	Sec	Twp	Rge	Mer	Lat (NAD 83)	Long (NAD 83)
13	3	96	12	4	57.3050	-111.8729

End Point of Transmission Line

Lsd	Sec	Twp	Rge	Mer	Lat (NAD 83)	Long (NAD 83)
3	24	96	11	4	57.3386	-111.6536

If you have any questions or comments, please contact the EAS Administrator.



March 25, 2009

Don Popowich, Director, Facilities
Alberta Utilities Commission
First Calgary Place East
400, 425 - 1 Street SW
Calgary, Alberta, T2P 3L8

Dear Sir;

**RE: Application for Alteration of Approved 240 kV Transmission Line 9L32
For Connection of the IORVL Kearl Oil Sands Project**

1.0 INTRODUCTION

ATCO Electric Ltd. holds Permit and Licence No. U2008-279 for 240 kilovolt (kV) transmission line 9L32 between the Joslyn substation 849S and the approved Petro-Canada Oil Sands Inc. (PCOSI) Fort Hills Intertie substation 585S north of Fort McMurray, Alberta (see reference map Attachment 3-Dwg. PX-01). The Alberta Electric System Operator (AESO) has directed ATCO Electric to alter the approved line 9L32 in order to connect it with an approved 240 kV line from Imperial Oil Resources Venture Ltd.'s (IORVL) Kearl Oil Sands Project (KOSP). Concurrently, AESO has advised ATCO Electric of the cancellation of the need to extend 9L32 to PCOSI'S Fort Hills oil sands project. Therefore, ATCO Electric proposes to amend the existing approval for 9L32 as described in this application. ATCO Electric is seeking approval as soon as possible, to allow clearing to occur on the acquired right-of-way in April 2009, if weather and ground conditions permit.

1.1 Application Proposal

ATCO Electric hereby applies to the Alberta Utilities Commission pursuant to Sections 14 and 15 of the *Hydro and Electric Energy Act* ("HEEA"), Chapter H-16, RSA 2000, as amended), for Permit and Licence to alter the approved 240 kV transmission line **9L32** (Permit and Licence No. U2008-279) by:

- i. Energizing a 14.0 km existing segment of idle 240 kV transmission line as previously approved;
- ii. Constructing a 3.4 km new segment of 240 kV transmission line as previously approved;
- iii. Constructing a 0.4 km new segment of 240 kV transmission line; and
- iv. Connecting and operating these segments as a 240 kV transmission line designated as 9L32 from the ATCO Electric Joslyn substation 849S to a point of connection with the approved IORVL 240 kV transmission line L9900.

In accordance with AESO's need assessment **Application No. 1604878**, the proposed 9L32 line as amended would exclude the previously-approved 2.1 km segment of 240 kV transmission line extending north from the Bitumount area to the PCOSI Fort Hills Intertie substation 585S.

1.2 Related Approvals

ATCO Electric holds approvals from the Commission for the following related facilities.

- **Joslyn substation 849S:** Permit and Licence No. U2008-279 as approved under Application No. 1575660. This approval is unaffected, since the alterations as proposed (240 kV circuit breaker addition and connection of 240 kV line 9L32) are unchanged from the alterations approved for the current Permit and Licence.
- **De-energized 240 kV transmission line 9L03:** Permit and Licence No. U2008-280 as approved under Application No. 1575660. This approval is unaffected, since the alteration as proposed (disconnection from existing segment of 9L32 at point "N48") is unchanged from the alteration approved for the current Permit and Licence.
- **Connection of ATCO Electric 240 kV Line 9L32 to PCOSI Fort Hills Intertie substation 585S:** Connection Order No. U2008-281 as approved under Application No. 1575660. This connection is no longer required in accordance with the AESO's Need Assessment Application No. 1604878.

IORVL holds approvals from the Commission for the following related facilities.

- **240 kV transmission line L9900,** from IORVL's Kearl Main substation 9900S to the Alberta Interconnected Electric System in the Fort MacKay area: Permit and Licence No. U2009-55 as approved under Application No. 1583822.
- **KOSP industrial system designation:** Interim Order No. U2008-154, as approved under Application No. 1563332.

Separate application for a Connection Order under Section 18 of the HEEA will be made prior to energization of the connection to the IORVL facilities.

1.3 Need and AESO Direction

The need for the KOSP interconnection was addressed by AESO as AESO Project RP-05-828 and was the subject of a need identification document (NID) filing to the Commission (Application No. 1604829) pursuant to the applicable processes under *Electric Utilities Act*. The need for the amendment of the Fort Hills connection was addressed by AESO as a NID filing to the Commission (Application No. 1604878), supplementing and amending the approved Fort Hills need (Application No. 1511654).

In accordance with Section 35 of the *Electric Utilities Act*, AESO has directed ATCO Electric to submit this application. A copy of the direction correspondence is attached (see Attachment 8).

2.0 PROJECT DESCRIPTION

2.1 Alteration of Approved 240 kV Transmission Line 9L32

IORVL requires a transmission connection via a 240 kV line from ATCO Electric's Joslyn substation to IORVL's proposed KOSP transmission line L9900 in the Fort Hills-Bitumount area. The IORVL facilities are described in Application No. 1563332. The interconnection requirement is described in AESO's NID Application No. 1604829.

For the Fort Hills project, ATCO Electric had previously received approval to add a span of line at Joslyn substation, energize an existing 14.0 km portion of idle line 9L32 (double-circuited with 9L66), construct an additional 5.5 km portion of 240 kV line, and connect and operate the line as 9L32 between Joslyn and Fort Hills. With the amendment of the Fort Hills requirements and in order to meet the KOSP interconnection requirements, ATCO Electric now proposes to:

- Add a span of line at Joslyn substation in NW 3-96-12-W4M to extend the line into the substation, as previously approved;
- Energize the 14.0-km segment from Joslyn substation to a point "N48" east of the Athabasca River in LSD 14, in NW 1-96-11-W4M, as previously approved;
- From "N48" north, construct a 3.4 km portion of the previously approved new line to a point "F2" in the Bitumount area in SW 24-96-11-W4M as shown on Attachment 5-Dwg. PX-02; and
- Construct approximately 380 m of new line north from "F2" to point "K2", then east to a pair of line switches at points "K3S" and "K3N", then west to a point of connection with IORVL's line at point "K4", as shown on Dwg. PX-02.

The 17.8-km line from Joslyn to the point of connection with the IORVL line will be designated as 9L32.

The designated point of connection of ATCO Electric's line 9L32 to IORVL's line L9900 is in the vicinity of a future Bitumount substation site, as shown on Attachment 5-Dwg. PX-02. Single line drawings for the connections with IORVL and at Joslyn are shown on pages 18 and 19 of AESO's final functional specification (Attachment 7).

Facility locations and coordinates on completion are as follows.

Facility	Land (Legal)	Latitude (N)	Longitude (E)
240 kV Line 9L32			
-Start (Joslyn Substation)	LSD 13, NW 3-96-12 W4M	57.3050	-111.8729
-End (Kearl Connection Point)	LSD 3, SW 24-96-11 W4M	57.3386	-111.6536

2.2 Newly Proposed Line Segment

The newly proposed segment of line, from "F2" to "K2" to "K3S" to "K3N" to "K4" (see Attachment 5-Dwg.PX-02) will be a single-circuit design built using primarily steel H-frame structures or lattice corner-deadend towers as shown in the typical structure drawings

(Attachment 6-Dwg. PX-03). Conductors for the line will be bundled (2x) 795 MCM (Drake). Thermal ratings are as described in Application No. 1575660.

Transmission Line Alignment and Right-of-Way

The proposed transmission line follows the previously-approved alignment to "F2", then extends east to and from the future Bitumont substation site to accommodate line switching structures as specified by AESO in the functional specifications.

The right-of-way requirements are as described in Application No. 1575660. No new right-of-way is required for ATCO Electric's line, pending final survey.

2.3 Land and Environment Considerations

The proposed project is located within the Regional Municipality of Wood Buffalo, about 13 km north of the hamlet of Fort MacKay. The area is forested and non-forested industrially developed Crown land with generally flat terrain. The overall study area and existing approved route, along with the conservation and reclamation measures and potential environmental impacts, are as described in Application No. 1575660. Further information is provided in the Conservation and Reclamation document (Attachment 2).

The newly proposed 380-m segment of line construction is located on lands where the oil sands rights are held by the PCOSI Fort Hills oil sands lease. The new segment, as shown on Attachment 5-Dwg. PX-02, will be constructed on Crown easements or leases that have already been acquired for the Fort Hills project. ATCO Electric has obtained a Crown lease for the future Bitumont substation site, for initial use for the transmission line, line switches and telecommunications facilities.

2.4 Joslyn Substation 849S and Related Alterations

The proposed alterations at Joslyn substation as specified in the functional specifications are the same as those approved under Application No. 1575660. A description of the substation details, if required, is provide in section 2.1 of that application.

2.5 Schedule

A summary of key preparatory and construction activities is as follows.

Activity Sequence	Approximate Timing
Transmission line survey	March 2009 - May 2009
Transmission line right-of-way clearing	April 2009 weather permitting otherwise December 2009
Transmission line foundations installed	January 2010 – February 2010
Transmission line structures / wires installed	January 2010 – March 2010
Substation alterations	May 2009 – February 2010
In Service Date	March 31, 2010

The dates in the schedule are approximate and may change according to factors such as timing of approvals, contractor plans, resource availability, material delivery, ground conditions and weather. Construction (right-of-way clearing) is scheduled to start in April 2009 if conditions permit and all necessary approvals are received. The targeted completion date is March 31, 2010.

2.6 Project Costs

The table that follows provides an estimate of the project costs for the work as described in the ATCO Electric scope of work in the final functional specifications. The Direct Assignment from AESO dated March 6, 2009 in paragraph f directs that the costs of the project are not to exceed \$5,532,345 unless the AESO issues a subsequent written notice to ATCO confirming that IORVL has executed an amendment to the CCA and increased the total financial security required for the project. AESO is currently working with IORVL to amend the CCA to the project estimated cost of \$10,220,000.

Accuracy : +20/-10%	System Portion	Customer Portion	Total	Capital Maintenance
Transmission Line Costs				
Material	\$ 158,000	\$ 1,872,000	\$ 2,030,000	-----
Labour	69,000	1,189,000	1,258,000	-----
Total-Transmission Line	473,000	5,737,000	6,210,000	
Substation Facilities Costs				
Material	-	1,241,000	1,241,000	-----
Labour	-	975,000	975,000	-----
Total-Substations	-	2,216,000	2,216,000	
Telecommunications Costs				
Material	218,000	794,000	1,012,000	-----
Labour	146,000	380,000	526,000	-----
Total- Telecommunications	364,000	1,174,000	1,538,000	
Owners Costs				
Proposal to Provide Service	-	101,000	56,000	-----
Facility Applications	-	103,000	57,000	-----
Land Rights- Easements	-	138,000	132,000	-----
Land-Damage Claims		85,000	85,000	
Land-Acquisitions		14,000	14,000	
Total-Owners Costs	-	441,000	441,000	
Distributed Costs				
Procurement	-	313,000	131,000	-----
Project Management	-	397,000	166,000	-----
Construction Management	-	334,000	140,000	-----
Contingency		613,000	613,000	
Total-Distributed Costs	-	1,657,000	1,657,000	
TOTAL DIRECT COSTS	591,000	8,549,000	9,140,000	
Other Costs				
AFUDC	27,000	385,000	412,000	-----
E&S	43,000	625,000	668,000	-----
Total Other Costs	70,000	1,010,000	1,080,000	
TOTAL INDIRECT COSTS	70,000	1,010,000	1,080,000	
TOTAL PROJECT COSTS	\$ 661,000	\$ 9,559,000	\$ 10,220,000	

3.0 PUBLIC AND LANDHOLDER CONSULTATION

Further to consultation completed for the previously approved Fort Hills project, ATCO Electric provided a project update, describing the alterations related to the Kearn connection, to potentially interested parties. This information, dated February 13, 2009, was provided to adjacent landholders and occupants, agencies and other interested parties within 800 m of the substation property and transmission line right-of-way. The notification was provided to a list of 14 landholders and occupants, 6 government agencies, 5 industrial landholders, two additional agencies and one trapline holder. ATCO Electric also provided a copy of the notification to the aboriginal communities in the area that had been consulted or notified previously. A copy of the project update is included as Attachment 7. There are no permanently occupied residences within several kilometres of any of the proposed work. ATCO will provide a list of landholders and agencies under separate cover.

ATCO Electric followed up with personal communication with the surrounding landholders and occupants, First Nations and all agencies to confirm no concerns. Industrial landholders confirmed no concerns to the project provided that all required crossing agreements were obtained and standard setbacks were observed. The additional identified requests from the personal communication are as follows.

Landholder or Agency	Concern or Request	ATCO Response
Northland Forest Products Ltd.	Request crossing points along the line in order to transport logs and equipment.	ATCO will comply, subject to review of the final terms and conditions.
Alberta Natural Heritage Information Centre	Identified an occurrence of <i>Chiloscyphus Pallescens</i> (Pale Liverwort) in proximity to the proposed new transmission line route	The occurrence is on the PCOSI lease and has likely already been disturbed. After right-of-way survey ATCO will confirm the location and take further steps as required.
Transport Canada	Submit Aeronautical Obstruction Clearance form	ATCO will comply.
NAV CANADA	Submit line design data for review	ATCO will comply.

4.0 CONCLUSION

The alterations will be designed, built and operated in accordance with the requirements of the *Safety Codes Act* and applicable regulations and industry standards. The proposed facilities will be inspected and declared safe prior to being energized.

ATCO Electric is confident that the alterations described herein are both warranted and cost effective, and respectfully requests the Commission's favourable and timely consideration. Correspondence or questions concerning this project can be directed to Kara Green (phone 780-420-7277), or to the project manager Craig Shutt (phone 780-420-3676).

Yours truly,

< Original signed by R. Boven for >

Paul Goguen, P. Eng., MBA

Vice President, Transmission

Attachments:

1. Application Text (this document)
2. Conservation and Reclamation Document
3. Reference Map, Drawing RS-9L32-PX-01
4. Route Map, Drawing RS-9L32-AX-01
5. Site Map (route detail), Drawing RS-9L32-PX-02
6. Typical Structures, Drawing RS-9L32-PX-03
7. Project Update to Landholders/Agencies, February 13, 2009
8. Direction from AESO, March 6, 2009
9. AESO Final Functional Specification, January 19, 2009

CC: D. Patterson, AESO, Calgary

CONSERVATION AND RECLAMATION

ATCO Electric Ltd. proposes to construct a 240 kilovolt (kV) transmission line designated as 9L32 to connect the Imperial Oil Resource Ventures Limited (IORVL) Kearl Oil Sands Project (KOSP) line L9900 to the provincial grid. The facilities are located about 80 kilometres north of Fort McMurray, Alberta.

ATCO Electric's proposed line will consist of construction of approximately 380 metres (m) of newly proposed 240 kV line, construction of approximately 3.4 km of previously approved line (Permit and Licence No. U2008-279), and energization of 14.0 km of existing idle 240 kV line, as described in Attachment 1 (text) of this application. Locations of the facilities are shown on the route map (Attachment 4-Dwg. AX-01) and detail map (Attachment 5-Dwg. PX-02). Clearing and construction are planned for winter 2009-2010, although right-of-way clearing may occur in April 2009 if approvals are obtained and weather and ground conditions permit.

All of the approximately 3.8 km of ATCO Electric's new line, including the newly proposed 380-m segment of line shown on Attachment 5-Dwg. PX-02, will be constructed on previously acquired Crown easements or leases. There would be no significant impacts on the adjacent landholders or the environment.

The facilities will be constructed and maintained:

- As described in the conservation and reclamation document originally filed for proposed line 9L32 (Attachment 3 of Application No. 1575660);
- In accordance with the terms and conditions of the lease and right-of-way agreements or easements, particularly requirements identified in environmental field reports filed for easements on Crown land; and
- Adhering to Alberta Environment's C&R/IL/95-2, *Environmental Protection Guidelines for Electric Transmission Lines*.

The proposed activities are located in forested and cleared (industrial) Crown land in the provincial Green Area within the Regional Municipality of Wood Buffalo. The terrain is predominantly flat and is dominated by muskeg. The project area is located on oil sands leases, a forest management agreement area and timber quota area, and within a registered trap line. The new construction will occur within approximately 200 m of Highway 63.