



September 23, 2008

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 Proposed Waddell Substation 907S

1.0 INTRODUCTION

ATCO Electric Ltd. proposes to build a new power transmission substation in the Conklin area, south of Fort McMurray in northeastern Alberta. The project is required to connect StatoilHydro's Leismer oil sands development to the provincial transmission system. The new substation will connect with a proposed 144 kilovolt (kV) transmission line 7L114 from AltaLink's existing Leismer substation about 31 kilometres (km) to the southeast. The work is planned to commence by November 2008, or if conditions permit, as soon as permit and licence is received, for an in-service date of July 1, 2009.

1.1 Proposal

ATCO Electric hereby applies to the Alberta Utilities Commission (the "Commission") pursuant to Sections 14 and 15 of the *Hydro and Electric Energy Act*, being Chapter H-16 of the Revised Statutes of Alberta 2000, as amended, for Permits, Licences, Approvals and Orders to construct and operate a new 144-25 kV substation designated Waddell 907S.

1.2 Related Facilities – 144 kV Transmission Line 7L114

The Waddell substation will connect to a proposed 144 kV transmission line 7L114 from AltaLink's Leismer substation 72S. Line 7L114 is comprised of two portions: an approximately 12-km portion owned by AltaLink, and an approximately 19-km portion owned by ATCO Electric. The Waddell substation will connect to ATCO Electric's portion of the line. Application for the transmission line is being submitted to the Commission separately by AltaLink on behalf of AltaLink and ATCO Electric.

1.3 Project Need and AESO Direction

The facilities are required to provide power to oil sands developments of StatoilHydro (formerly North American Oil Sands) in the area northwest of Conklin. The need for the

project was addressed by the Alberta Electric System Operator (AESO) as AESO Project RP-05-595 and was the subject of a needs identification document (NID) filed with the Alberta Utilities Commission (Application No. 1545097) pursuant to the applicable processes under the *Electric Utilities Act*. The need was approved by the Commission on March 20, 2008. 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 4).

In the Direction letter, dated July 4, 2008, AESO has stated that ISO rules developed pursuant to Section 20 of the *Electric Utilities Act* and to the *Transmission Regulation*, including rules to address TFO eligibility, project reporting and procurement of project materials and construction services, are applicable to this project. In lieu of strict literal compliance with some of the ISO project procurement rules described in section 9.1.5 of those rules, particularly with respect to the competitive procurement of construction services, ATCO Electric is entering into a strategic contracting relationship for EPC (engineering, procurement and construction) resources, called a "Project Alliance". A Project Alliance uses a comprehensive and integrated multi-year, multi-project approach whereby the TFO's and the contractor's objectives are aligned to maximize performance and proactively manage risk with the goals of reducing cost, achieving schedule milestones and improvement in other key result areas. A key feature of a Project Alliance is the use of a "Target Cost/Open Book" approach to project management. Relevant to the current and forecasted Alberta labour shortage, a Project Alliance contracting model provides greater certainty that construction resources will be secured at reasonable cost in order to complete this and other major transmission projects within budget and on schedule.

This Project Alliance contracting model is included in Section 10, Attachment 1 of ATCO Electric's most recent General Tariff Application (GTA) No. 1578371, filed with the Commission on July 4, 2008, for the purpose of testing the reasonableness of this approach before the Commission. ATCO will implement the Project Alliance contracting model as described in the GTA for the Waddell substation.

ATCO Electric initially described this approach to the Energy and Utilities Board in June 2007 in Application No. 1515869 for the Brintnell to Wesley Creek project. That application included e-mail correspondence from AESO (dated August 20, 2007, submitted with ATCO response to BR-ATCO-2 of that application) confirming the following: "As stated in ATCO's Facility Application, ATCO is prepared to show the prudence of this approach to the EUB. If the EUB accepts and approves this approach, the AESO will acknowledge and support this exception to the ISO rules governing competitive procurement."

2.0 PROJECT DESCRIPTION

2.1 Waddell Substation 907S

ATCO Electric proposes to construct a new substation with a 25/33/42 MVA, 144-25 kV transformer, a 144 kV circuit breaker, two 25 kV circuit breakers, and associated protection, control and communication equipment and infrastructure.

Location and Site

Waddell substation 907S is proposed to be located in LSD 10, in NE 2-79-10-W4M (Lat/Long N 55.8177°, E -111.4530°), as shown on the site plan drawing A-02 (Attachment 2). The substation will be located on StatoilHydro's Leismer production site for which StatoilHydro holds a Crown lease. ATCO Electric requires an initial fenced area of approximately 61 by 39 metres (m), within a leased property of 150 by 150 m. The existing site is cleared of vegetation as part of StatoilHydro's 67-hectare (ha) site development. ATCO Electric will obtain a Crown lease, and/or a sub-lease from StatoilHydro for the required substation site.

Proposed and Final Major Equipment Design Specifications

- One (1) - 25/33/42 MVA, 144-25kV transformer
- One (1) - 144 kV Circuit Breaker
- Two (1) - 25 kV Circuit Breakers

While the second 25 kV circuit breaker is not required until 2010, it will be installed with the equipment required in 2009 in order to minimize construction costs.

Engineering Outline

The general substation equipment layout is indicated on the site plan drawing A-02 (Attachment 2). Engineering information, including switching and protection features, is shown on the proposed single line diagram, drawing A-03 (Attachment 3). Further details are specified in the AESO's final functional specifications, included as Attachment 5.

2.2 Project Costs

The cost estimate for the scope of the substation work, based on ATCO Electric's proposal to provide service submitted to AESO, is provided in Table 1.

Table 1 – Waddell Substation 907S Cost Estimate

Accuracy : +20/-10%	System Portion	Customer Portion	Total	Capital Maintenance
Transmission Line Costs N/A				
Substation Facilities Costs				
Material	-----	\$ 3,748,000	\$ 3,748,000	-----
Labour	-----	2,701,000	2,701,000	-----
Total-Substations		6,449,000	6,449,000	
Telecommunications Costs				
Material	\$ 61,000	508,000	569,000	-----
Labour	17,000	123,000	140,000	-----
Total- Telecommunications	78,000	631,000	709,000	
Owners Costs				
Proposal to Provide Service	-----	75,000	75,000	-----
Facility Applications	-----	45,000	45,000	-----
Land Rights - Easements	-----	22,000	22,000	-----
Total-Owners Costs		142,000	142,000	
Distributed Costs				
Procurement	-----	38,000	38,000	-----
Project Management	-----	358,000	358,000	-----
Construction Management	-----	252,000	252,000	-----
Total-Distributed Costs		648,000	648,000	
TOTAL DIRECT COSTS	78,000	7,870,000	7,948,000	
Other Costs				
AFUDC	3,000	355,000	358,000	-----
E&S	4,000	394,000	398,000	-----
Total Other Costs	7,000	749,000	756,000	
TOTAL INDIRECT COSTS	7,000	749,000	756,000	
TOTAL PROJECT COSTS	\$ 85,000	\$ 8,619,000	\$ 8,704,000	

2.3 Schedule

Construction is scheduled to start by November 2008, or if conditions permit, as soon as permit and licence is received. The targeted completion date is July 1, 2009.

A summary of the approximate schedule of key activities is provided in Table 2. The dates are approximate and may change according to factors such as timing of approvals, contractor plans, resource availability, material delivery, ground conditions and weather.

Table 2 – Proposed Schedule

Activity Sequence	Approximate Timing
Application to Commission	September 2008
Commission Approvals	November 2008
Construction Start	November 2008
In-Service Date	July 1, 2009

3.0 LAND AND ENVIRONMENT CONSIDERATIONS

Study Area and Site Selection

The project area is forested Crown land (Provincial Green Area) within Lac La Biche County about 35 km northwest of Conklin. The surrounding area is relatively flat with upland forests (aspen, spruce and pine) mixed with muskeg (black spruce) and flooded areas. The selection of a new site requires consideration of factors such as suitable site conditions (level, well-drained), good access, sufficient space, adequate setback from adjacent development and environmentally sensitive areas, and proximity to the area specified by AESO and StatoilHydro.

The proposed site is located on the surface lease for StatoilHydro's Leismer production facility, in an area of existing disturbance. The substation site is entirely within an area cleared and levelled in preparation for the construction of the StatoilHydro's production facility. The substation location, towards the northwest corner of the production site, was identified by Statoil Hydro due to its proximity to the customer load and compatibility with production site development. The site is accessible by StatoilHydro's main road and plant-site access, is reasonable flat and well-drained, has sufficient space for the initial fenced area plus future incoming lines and substation expansion to the north and west, and minimizes the impact on the environment.

There would be no significant impacts on the adjacent landholders or the environment. ATCO Electric will undertake the development and subsequent reclamation adhering to Alberta Environment's C&R/IL/95-2, *Environmental Protection Guidelines for Electric Transmission Lines*.

Environmental Impacts

As identified by an ANHIC (Alberta Natural Heritage Information Centre) search for elements of conservation concern, the general area is predominantly treed peatlands, which is the preferred habitat of the woodland caribou (*Rangifer tarandus*). There are no other identified areas of concern with respect to wildlife habitat. The area is not within the caribou protection area and therefore would not require timing restrictions or special management guidelines. As the substation will be located within an industrial lease on a cleared site, there should be no additional disturbance to the local wildlife or habitat.

Aesthetics

The site is located on the lease of a significant oil sands development. It is not near a well-travelled road and there are no residences in the area. The site is not located within any scenic viewpoints and will not be visible from Conklin. There are no special landscaping measures planned for this facility.

Historical Resources

As the site is previously disturbed, the identification of any archaeological, palaeontological or historical sites would have been identified and addressed through StatoilHydro's impact assessments prior to the production site development. If any sites are discovered during construction, work will be suspended until permission to continue is granted by Alberta Culture and Community Spirit.

Noise and Traffic

Any significant noise or traffic is generally limited to the initial construction period, when larger trucks and equipment are required for hauling and construction. Longer-term traffic is generally limited to less frequent traffic and lighter equipment. During continuous operation, transmission facilities are not expected to be audible more than a couple hundred metres from the site. There would be no appreciable noise increase from the proposed substation relative to the local mining and forestry activities.

Socio-economic Considerations

The proposed site is within two hours of Lac La Biche and Fort McMurray where there are services and amenities equipped to deal with a substation construction project. The general area has an active oil sands, forestry and oil and gas industry. As this project is being constructed in the same area and at the same time as oil sands development, infrastructure resources created for those projects may be used for this project. The project will benefit the local communities without undue disruption.

Construction, Operation and Maintenance

The substation development will require surface disturbance. The topsoil has been removed from the disturbed area and stockpiled by StatoilHydro. ATCO Electric will work with the production site owner for future site reclamation if and when decommissioning of the substation is required. The eventual decommissioning of the existing facilities will be subject to an environmental site assessment and will include soil sampling for contamination.

A variety of trucks, crawler tractors, cranes and similar equipment will be required during the course of substation site development and construction. The type and quantity of equipment varies from contractor to contractor.

The site is well-drained and suitable for all-season activity. The Applicant will comply with directions from Alberta Sustainable Resource Development (ASRD) for periodic audits or reclamation or orders to suspend activities due to adverse conditions.

Continued operation and maintenance of the proposed facility will require access to the substation. Access to the general area will be obtained thru StatoilHydro's entrance and perimeter roads. The construction of two short sections of road (approaches) will be required, beginning on the StatoilHydro perimeter road to the south of the substation boundary, extending north up to the substation fence.

Vegetation management and removal will be required to control the growth of incompatible vegetation around the substation, and will be done in accordance with the standards of practice for the Industrial Vegetation Management Association of Alberta. All pesticide applications shall be made by, or under the supervision of, a holder of an applicator certificate.

Electrical Effects

High voltage electrical transmission facilities may induce a voltage in metal objects that are located nearby. The most common objects are metal fences and buildings, telephone lines, and pipelines. Appropriate mitigation measures are outlined as follows.

The transmission facilities will be constructed and maintained in such a manner as to keep radio and television interference levels within limits acceptable to Industry Canada, the federal government department that regulates communications.

Under certain conditions, power transmission facilities can induce both electrical noise and hazardous voltages on telephone lines. ATCO will work with TELUS before and after construction to identify and mitigate adverse impacts.

Where necessary, metal fences, buildings, and structures will be grounded by ATCO to minimize induced voltages. Minimum clearance required between all transmission facilities and buildings will be in accordance with the *Safety Codes Act* and regulations.

4.0 REFERRAL TO LANDHOLDERS, AGENCIES AND INTERESTED PARTIES

4.1 Public and Landholder Consultation

ATCO Electric conducted a participant involvement program in accordance with AUC Rule 007. ATCO Electric notified all landowners/occupants, agencies and other interested parties within 800 m of the proposed Waddell 907S substation property. ATCO mailed project information to a list of six industry landholders, one trapper, and five agencies (Alberta Sustainable Resource Development, Lac La Biche County, TELUS, AESO and AUC). ATCO Electric also provided notification and detailed information of the project to four First Nations communities (Beaver Lake Cree Nation, Chipewyan Prairie Dene First Nation, Heart Lake First Nation, and Fort McMurray First Nation) and Métis Nation of Alberta Association Zone 1. A copy of the project information package is included as Attachment 6.

ATCO followed up with personal communication with all adjacent or directly affected parties and with the pertinent agencies to document any potential concerns, and confirmed no objections or concerns with the exception of those listed in section 4.2. A summary of the stakeholders is provided in Table 3. There are no occupied residences within several kilometres of the substation.

Table 3 – Summary of Landholders and Agencies (Part 1 of 2)

Landholder	Land Interest	Level of Consultation
INDUSTRY		
Alberta Pacific Forest Industries (Al-Pac), c/o Calgary	Forest management agreement, license of occupation	Consulted
Paramount Energy Operating Group, Calgary	Area operating agreement, pipeline agreement, mineral surface lease, license of occupation	Consulted
Paramount Resources Ltd, Calgary	License of occupation	Consulted
StatoilHydro Canada Ltd, Calgary	Licence of occupation, mineral surface lease, miscellaneous lease, temporary field authorization, surface material lease	Notified
Talisman Energy Inc.	Area operating agreement, license of occupation	Consulted
AltaLink Management Ltd.	Future easement, future vegetation control easement	Notified
TRAPPER		
Q. Osborne, TPA 1523, Conklin	TPA disposition (registered fur management areas).	Consulted

Table 3 – Summary of Landholders and Agencies (Part 2 of 2)

Landholder	Land Interest	Level of Consultation
GOVERNMENT/AGENCY		
ASRD, Dispositions, Edmonton	Landowner (Crown).	Notified
ASRD, Forest Management, Lac La Biche	Landowner (Crown)	Consulted
Lac La Biche County, Lac La Biche	(Municipal development and road authority)	Consulted
TELUS Communications Inc., Edmonton	(Section 39, <i>Hydro and Electric Energy Act</i>)	Consulted
AESO, Calgary	n/a	Notified
Alberta Utilities Commission, Calgary	n/a	Notified

4.2 First Nations Consultation

Based on information from First Nations communities and ASRD, ATCO Electric determined the project area to be within the traditional land use areas identified for four First Nations communities:

- Beaver Lake Cree First Nation (BLCFN)
- Chipewyan Prairie Dene First Nation (CPDFN)
- Fort McMurray First Nation
- Heart Lake First Nation (HLFN)

Public information packages were hand delivered and the project was discussed with each of the First Nations. CPDFN and HLFN have indicated no outstanding concerns with the substation. Fort McMurray First Nation has indicated concerns regarding the requirement for further communications about the overall project (oil sands and power line activity). BLCFN advised that they do not have the resources to conduct a proper review of the potential impacts of the project on their rights. ATCO will continue to work with the communities to address their interests and concerns.

ATCO Electric also provided detailed information about the project to Métis Zone 1 representing the Métis communities.

5.0 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 Ryan Smart (phone 780-733-2800), or to the project manager James Carlson (phone 780-420-7296).

Yours truly,

< Original signed by >

Ray Boven, P. Eng.

Vice President, Engineering

Attachments:

1. Application Text (this document)
2. Waddell Substation 907S Site Plan, Drawing RS-907S-A-02.
3. Waddell Substation 907S Proposed Single Line Diagram, Drawing RS-907S-A-03.
4. Direction from AESO, July 4, 2008.
5. AESO Final Functional Specification, December 18, 2007.
6. Project Information to Landholders/Agencies, August 2008.

CC: H. Ng / F. Ritter, AESO, Calgary
M. Jackson / R. Desrosiers, AltaLink, Calgary
B. Blattler, StatoilHydro, Calgary

DAY MONTH YEAR
23-Sep-2008Application #
1587936APPLICANT'S FILE NUMBER
Waddell 907SSUBMISSION STATUS Registered SUBMISSION ID 182597 CREATION DATE 19-Sep-2008

1. APPLICANT INFORMATION

Primary Applicant

COMPANY NAME ATCO Electric Ltd. BA CODE 0A5ZCONTACT NAME Ryan SmartTELEPHONE (780) 733-2800 FAX (780) 420-8017E-MAIL facilityapp@atcoelectric.comMAILING ADDRESS 10035 - 105 Street, Edmonton, AB T5J 2V6

2. PROJECT OVERVIEW

1. Application Description:

Waddell 907S, New Substation2. Are there other AUC applications directly related to this application? Yes No

Application Category Application Type Application Number (If Known)

Electric Need Assessment 1545097

3. APPLICATION TYPES

1. Identify what this application is for:

Electric Substations

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

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SUBMISSION STATUS Registered SUBMISSION ID 182597 CREATION DATE 19-Sep-2008

4. SUBSTATION

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 legal description, latitude and longitude of the substation. (Provide latitude and longitude coordinates in decimal degrees.)

Lsd	Sec	Twp	Rge	Mer	Lat (NAD 83)	Long (NAD 83)
<u>10</u>	<u>2</u>	<u>79</u>	<u>10</u>	<u>4</u>	<u>55.8177</u>	<u>-111.4530</u>

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

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FINAL DETAILS MAY VARY.

NW2 79-10-4

NE2 79-10-4

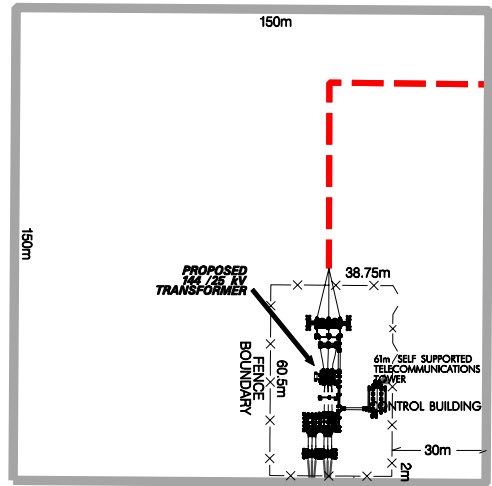
STATOIL AMENDED
PLANT SITE
MLL 070091

**PROPOSED
144 kV TRANSMISSION
LINE 7L114**

(LOCATION
APPROXIMATE)

FACILITIES WITHIN THE
PLANT SITE PROVIDED FOR
INFORMATION PURPOSES ONLY
(THEY ARE SUBJECT TO CHANGE)

TEMPORARY LAYDOWN AREA

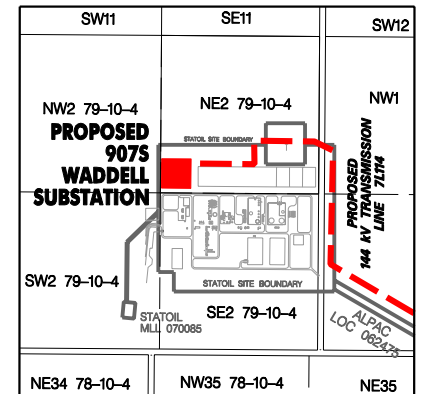


907S WADDELL
SITE BOUNDARY

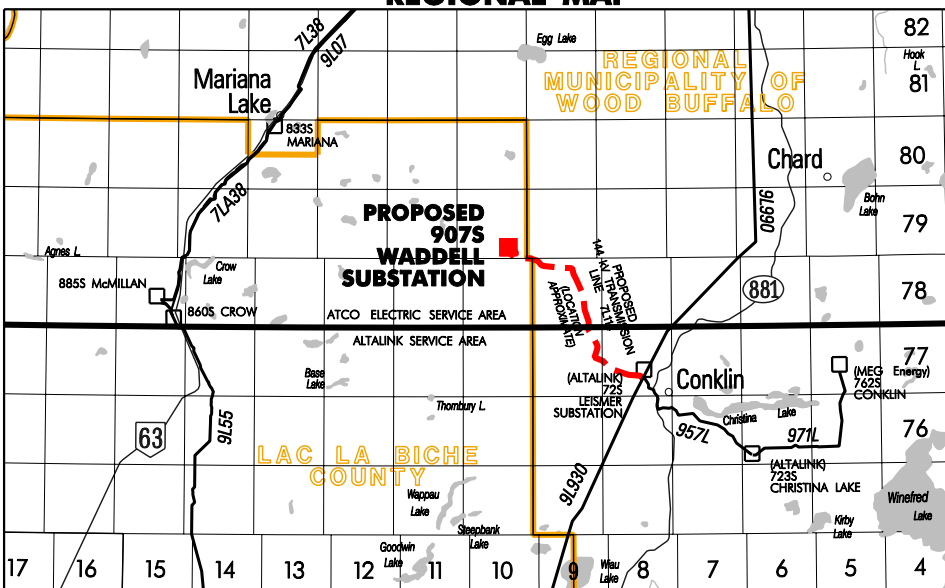
SW2 79-10-4

SE2 79-10-4

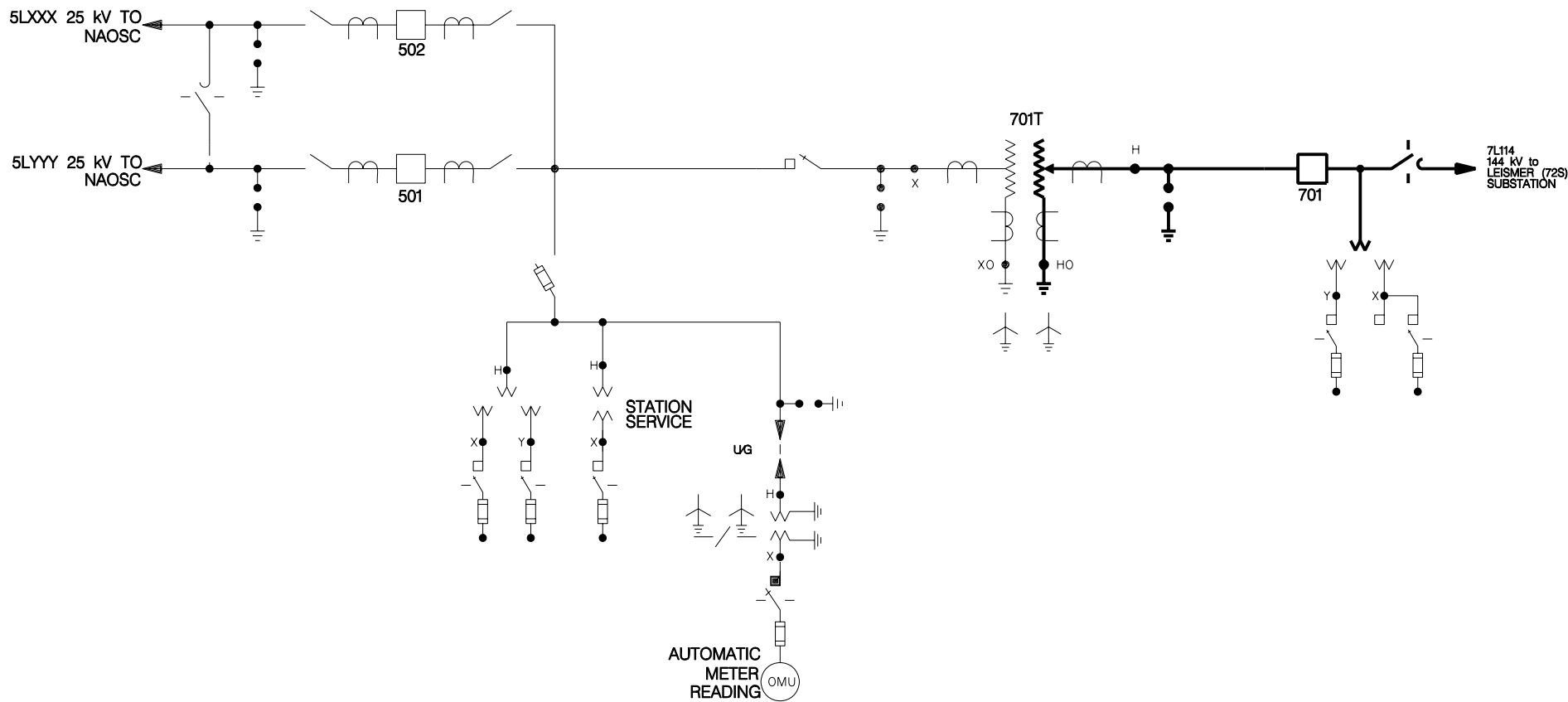
KEY MAP



REGIONAL MAP



Waddell Substation
144 kV Transmission Project
WADDELL SUBSTATION 907S
SITE PLAN



ATCO Electric

Waddell Substation
144 kV Transmission Project

WADDELL SUBSTATION 907S
PROPOSED SINGLE LINE DIAGRAM