

**NOVA SCOTIA POWER INC.**  
**CUSTOMER OPERATIONS**  
**TRANSMISSION ENGINEERING DEPARTMENT**



**FACILITIES STUDY**  
**INFRA-STRUCTURE REPORT**

**FOR**

**ESTABLISHING A 69kV SYSTEM CONNECTION**  
**FOR A NEW 14 MW**  
**WIND FARM NEAR LINGAN**

**PROJECT ...-###-T516**

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**Equipment Design & Practices Specialist**

**Date: 2006-03-09**

**Revision: 0**

# Facilities Study Infra-Structure Report



W.O. No.:  T516  Page  1  of  44

Project:  109S- [REDACTED] Interconnection Sub.   
 Est. 69kV System Connection for Wind Farm

Date:  2006-03-09  Rev. No.:  0

System	Description								
1.0	<p><b>SUMMARY</b></p> <p>This project provides for the establishment of a “69kV System Connection” for a 14 MW (7 turbine) wind farm near NSP’s Lingan power plant and power plant substation, located near the village of Lingan, Nova Scotia. The wind farm will be installed and operated by [REDACTED]</p> <p>The system connection will consist of a 2.4 km, 69 kV line which will tap the existing NSP line L-5573 and connect to the [REDACTED] owned 69-25 kV interconnection substation (109S). The system connection will also include control circuitry changes to the L-5573 line terminal at the 2S-Victoria Junction substation, inter-tie protection installed by [REDACTED] at the 109S substation, protection and control signalling between the 2S and 109S substation and SCADA to the 109S substation.</p> <p>The point of delivery will be the tap to line L-5573.</p> <p>The estimated cost of the NSPI portion of the project and the estimated scheduled “in-service” durations are as follows:</p> <table border="1" data-bbox="454 1255 1445 1459"> <thead> <tr> <th>Cost Estimate</th> <th>Annual Licence Cost</th> <th>Project Duration</th> <th>Final In-Service Date</th> </tr> </thead> <tbody> <tr> <td>\$586,717</td> <td>~ \$60</td> <td>5.5 months</td> <td>August 3, 2006</td> </tr> </tbody> </table> <p>The best effort, temporary “in-service” date estimate is May 12, 2006. The temporary “in-service” date assumes a connection with 2 wind turbines, interconnection protection c/w TT’s and status, but no SCADA or minimal SCADA. The estimated “in-service” dates are conditional upon the requirements in Section 1.2 being met; and the above estimated cost is conditional as per Section 1.1.</p>	Cost Estimate	Annual Licence Cost	Project Duration	Final In-Service Date	\$586,717	~ \$60	5.5 months	August 3, 2006
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Transmission Engineering  
**Department**

Prepared by:  J. A. Yurchesyn, P. Eng.   
 Approved by: \_\_\_\_\_

Customer Operations  
**Division**

Checked by: \_\_\_\_\_  
 Approved by: \_\_\_\_\_

# Facilities Study Infra-Structure Report



W.O. No.:  T516  Page  2  of  44

Project:  109S- [REDACTED] Interconnection Sub.   
 Est. 69kV System Connection for Wind Farm

Date:  2006-03-09  Rev. No.:  0

System	Description
1.1	<p>The project “In-Service” date is dependent upon the starting date, which cannot commence until the following conditions are met:</p> <ul style="list-style-type: none"> <li>• [REDACTED] provides NSPI with a legally binding easement in the form acceptable to NSPI for any non-NSPI land that the 69kV line right-of-way requires.</li> <li>• [REDACTED] finalizes the easement and leases arrangements for NSPI owned land that the 69kV line right-of-way and substation require - including the collector circuits.</li> <li>• [REDACTED] fully compensates NSPI for the use of NSPI land for the 69 kV line right-of-way easement and the 69kV substation and collector circuits lease.</li> <li>• [REDACTED] delivers to NSPI the balance of the cost estimate for the project, in a form acceptable to NSPI, as per the facility study.</li> </ul> <p><b>ESTIMATED COSTS</b></p> <p>The above indicated cost is an estimate only. [REDACTED] will be responsible to pay NSPI for entire incurred cost associated with this project, be it higher or lower than the estimate indicated above.</p> <p>This cost estimate excludes any work in the 109S substation associated with installation, testing and subsequent removal of the temporary transformer which will be leased from NSPI.</p> <p>The Annual Licence Cost is to cover the annual licencing fee for the UHF radio frequency for the new communications link. An additional, one time initial charge for acquiring the radio licences is included in the capital cost estimate.</p>

Transmission Engineering <b>Department</b>	Prepared by: <u> J. A. Yurchesyn, P. Eng. </u>  Approved by: _____	Customer Operations <b>Division</b>	Checked by: _____  Approved by: _____
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