# Bipole III Transmission Project

Clean Environment Commission Public Hearings

Agriculture Technical Report

Jim Nielsen – J. & V. Nielsen and

Associates Ltd.



## Background

- Farmer
- Agricultural Consultant
- Chief of Field Operations, Agricultural Crown Lands, Manitoba Department of Agriculture
- University: Lecturer and field work



## Request from Manitoba Hydro

 Identification of alternate transmission line corridors in agro Manitoba (Riel to The Pas)

Then assessment of those corridors



### Development of the Line Options

 Reviewed the soil types and land constraints

Identified agricultural activities



### Next Steps Taken

Multitude of lines developed

 Routes were ground truthed – thousands of kms travelled

Route adjustments for avoidance



### **Avoidance**

- Communities
- Airports
- Dwellings, farm buildings and farm yards
- Intensive livestock operations
- Row crop or intensive annually cropped areas



### **Avoidance**

- Lands under irrigation or pivots
- Tower placement diagonally in a field
- Lands belonging or entitled to First Nations
- Protected area lands and wildlife habitat lands



### Assessment

Length of the segment

 Tower alignment (diagonal vs. parallel to a roadway or property line)

Agricultural productivity



### **Assessment**

- Ratings were totalled
  - Table 6 depicts the three totals
- The route with lowest rating was selected from Highway 16 and north
- South of Highway 16, modifications made for avoidance and proximity to other key Hydro facilities



#### **Tower Placement**

Distance in-field south of Highway 16

 Adjacent to a road – ROW adjacent to road allowance but tower 42 m into field

 No adjacent road – placed on ½ mile or 1/4 section line



#### **Tower Placement**

- Continuation of agricultural operations
- Production

Machinery



# Self Support Towers





# Tower in Agricultural Land





# Tower in Agricultural Land





### Guyed Tower in Agricultural Land





### **Aerial Spraying**

Use of aerial spraying by farmers

- Dependent upon soil moisture
- Dependent upon type of crop (including rotation)



### Use of Liquid Manure

Impact to operations



# Future of Farming Operations

Farm size

Machinery

Other technology



# Summary

