

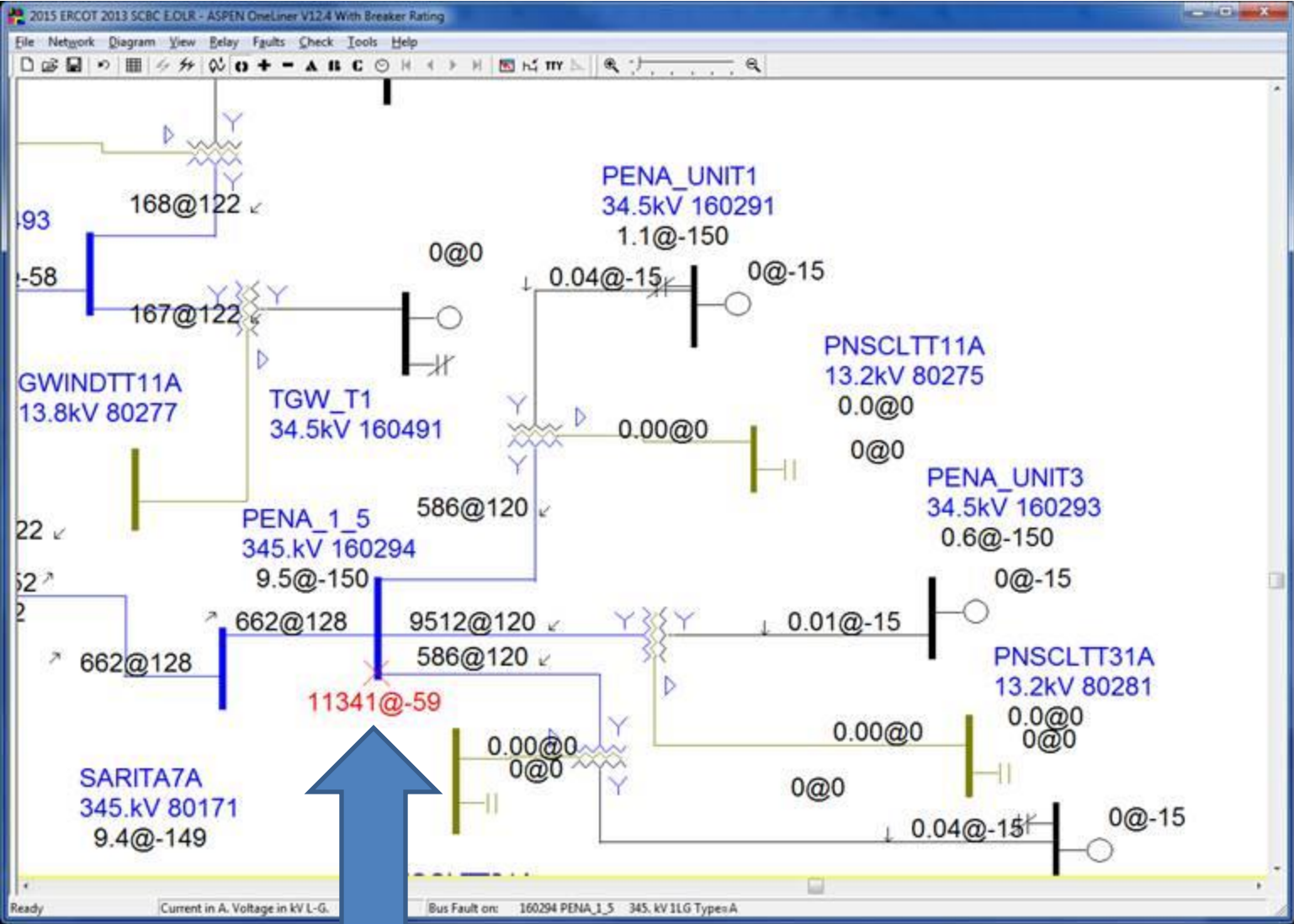
I have run across some modeling inconsistencies between the 2013 and 2014 posted short circuit cases.

Attached are screenshot examples, the differences range from bus number changes from ERCOTs 160XXX range to AEPs 80XXX range, the number of generators at the site, the amount of generation of a particular site, GSU impedance values changing, generator source impedance changing, and current limiting of generators changing among other discrepancies.

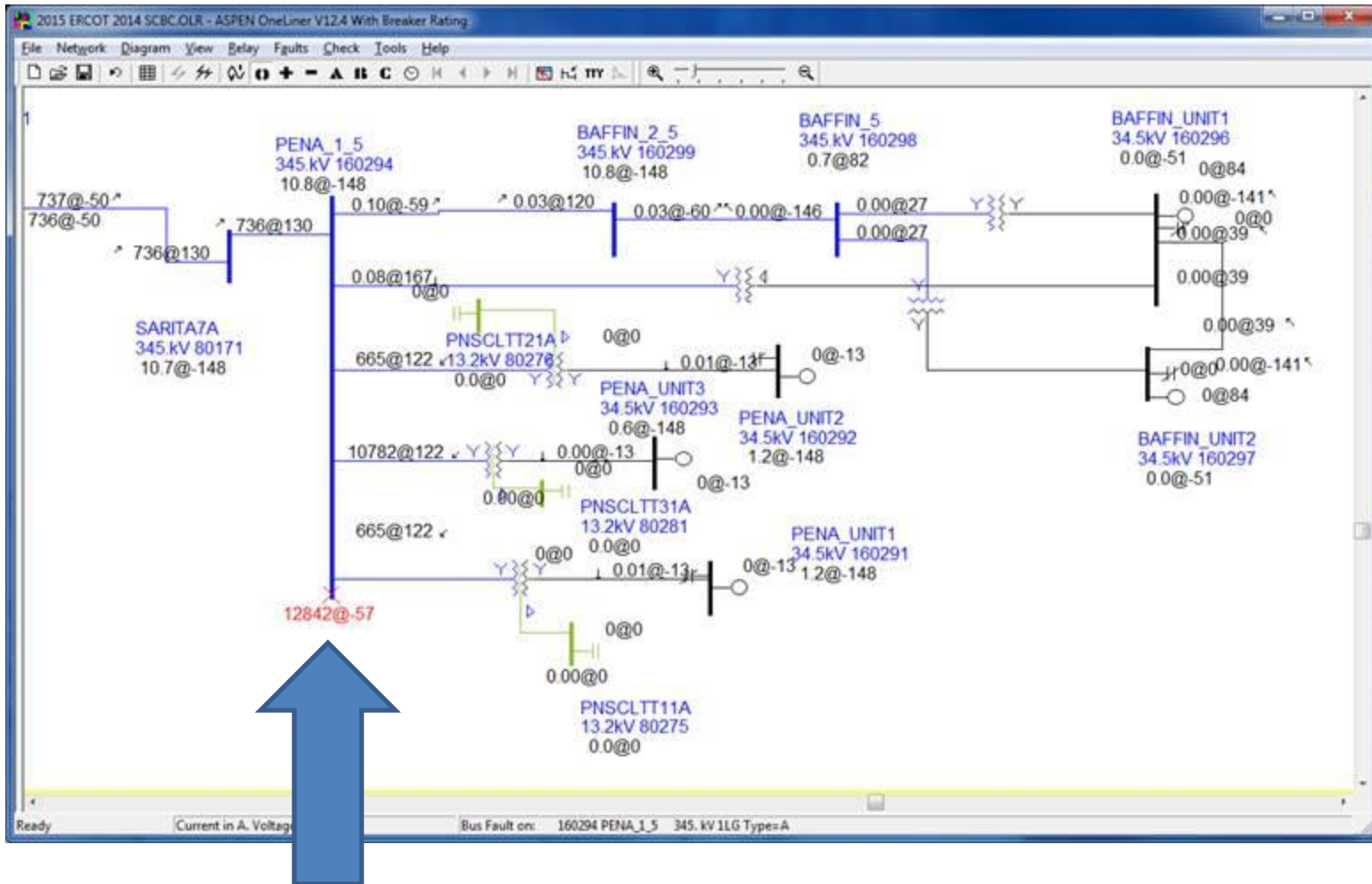
These changes have caused a number of issues in AEPs short circuit studies and our P&C department is attempting to set relays in the some of the areas for more generators and they are asking about these large discrepancies. I am trying to find out why these changes were made and if there was a change in generator modeling assumptions at ERCOT which has caused these.

Please let me know what is going to be done about these issues.

2015 case from the 2013 build 1L-G fault @ bus 160294

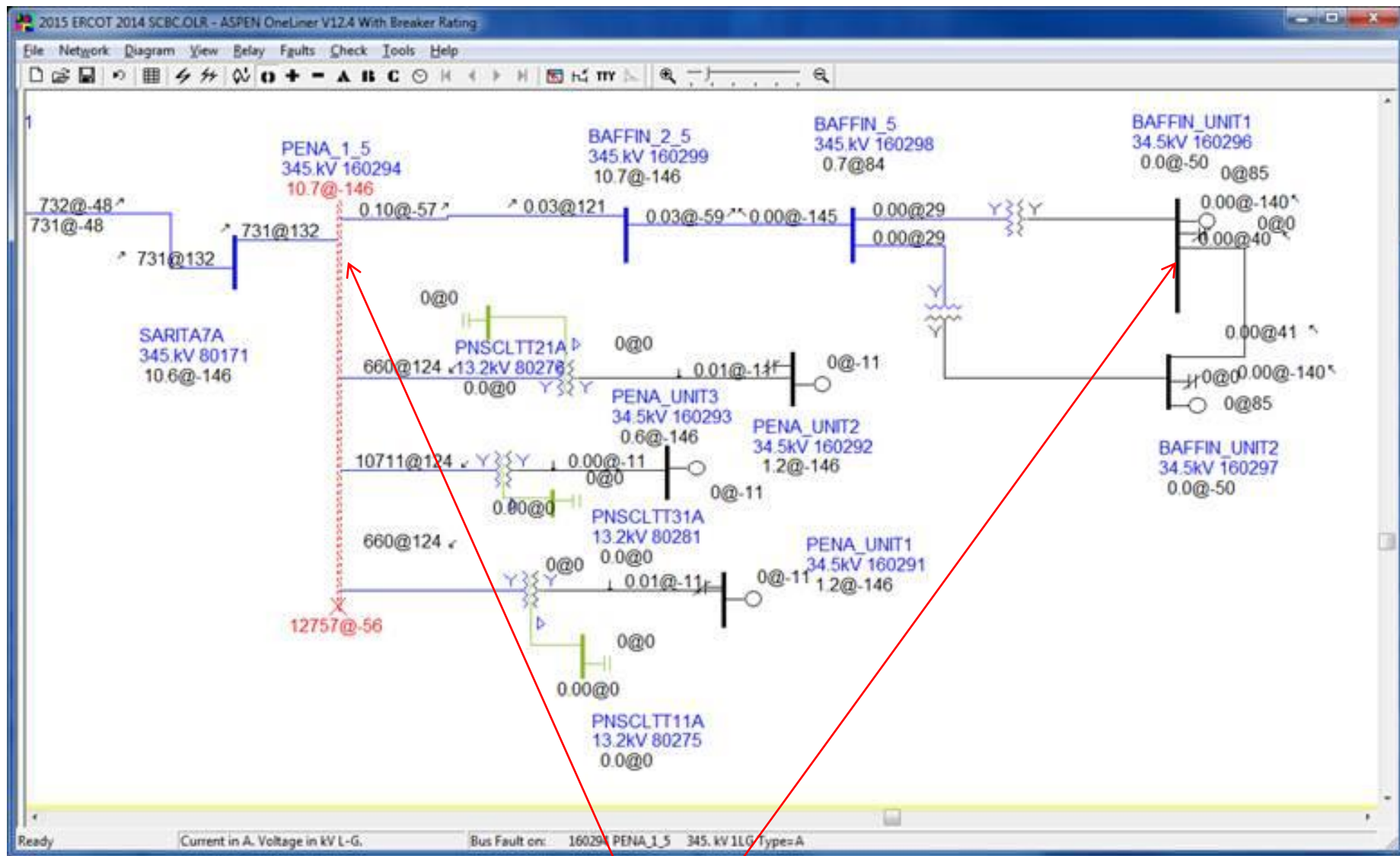


2015 case from the 2014 build 1L-G fault @ bus 160294



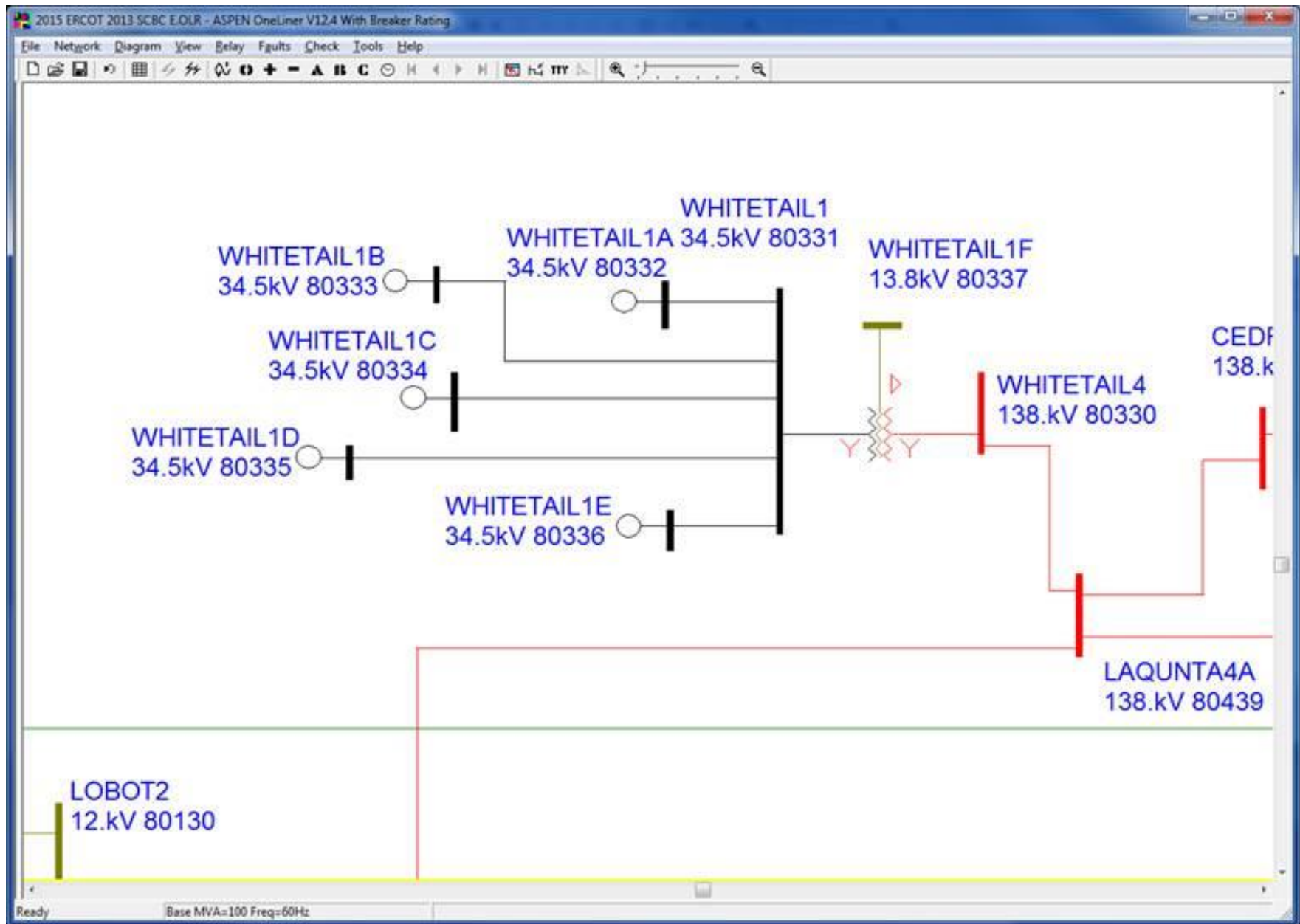
Comment: 13% increase in current. PENA_UNITx – 586/586/9512 vs 665/665/10782

2015 case from the 2013 build 1L-G fault @ bus 160294 of correction to Baffin transformer

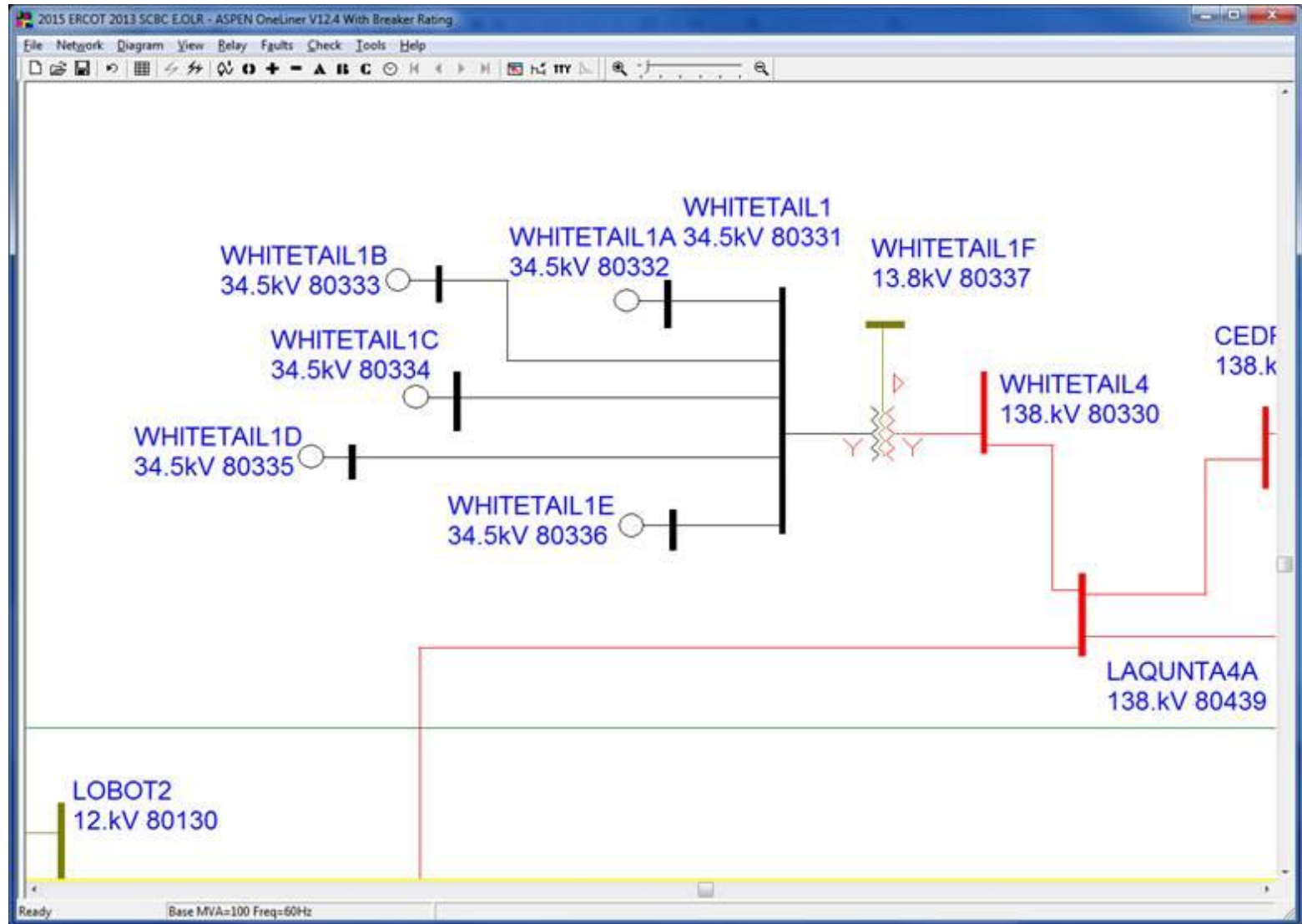


Q: Where is the PENA-BAFFIN delta-wye transformer? What is the correction?

Whitetail wind farm should Have Names and numbers in the 908 area range not in area 8 range

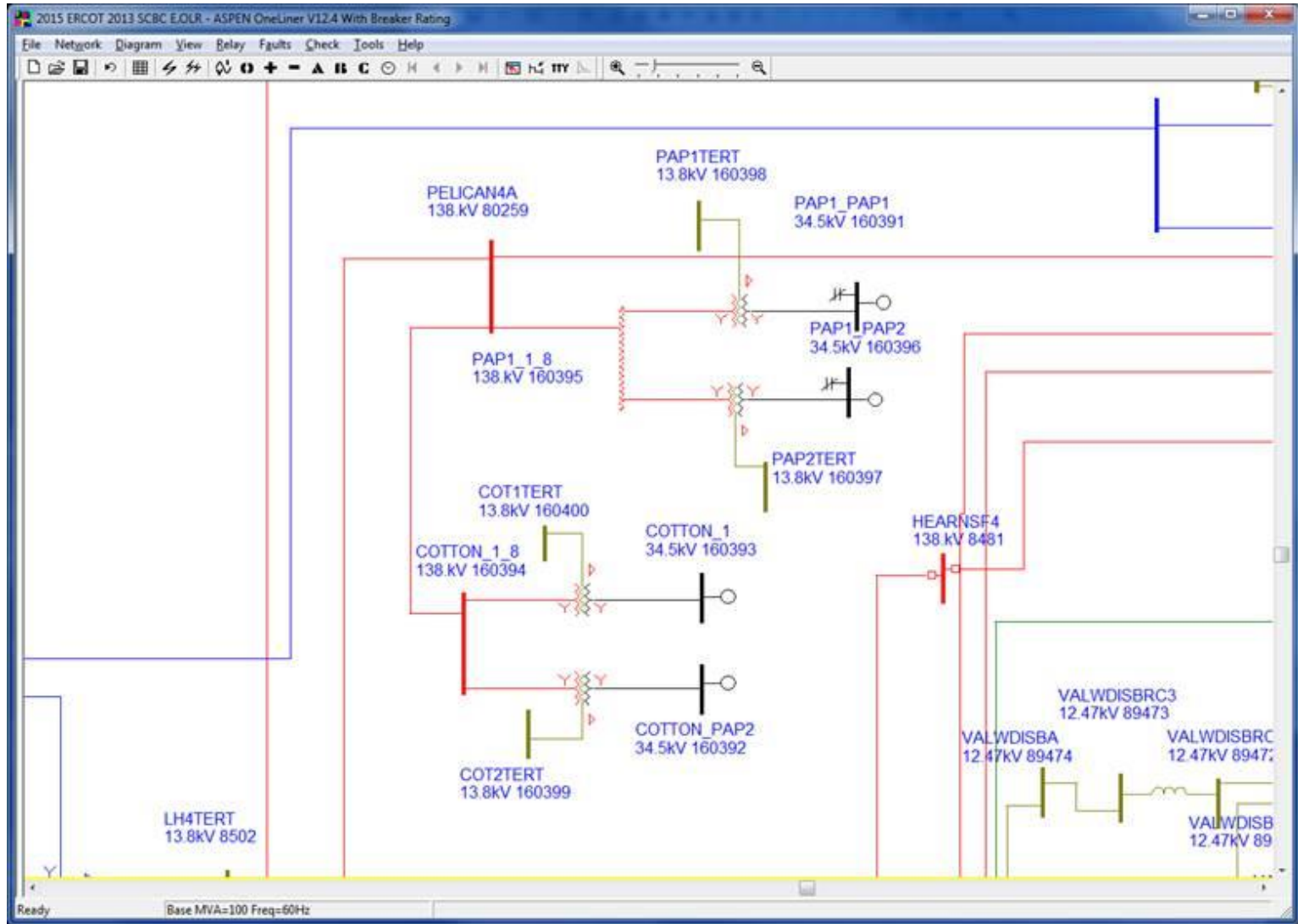


Missing connection to WHITETAIL 1B 80333 (still needed ERCOT name and number)

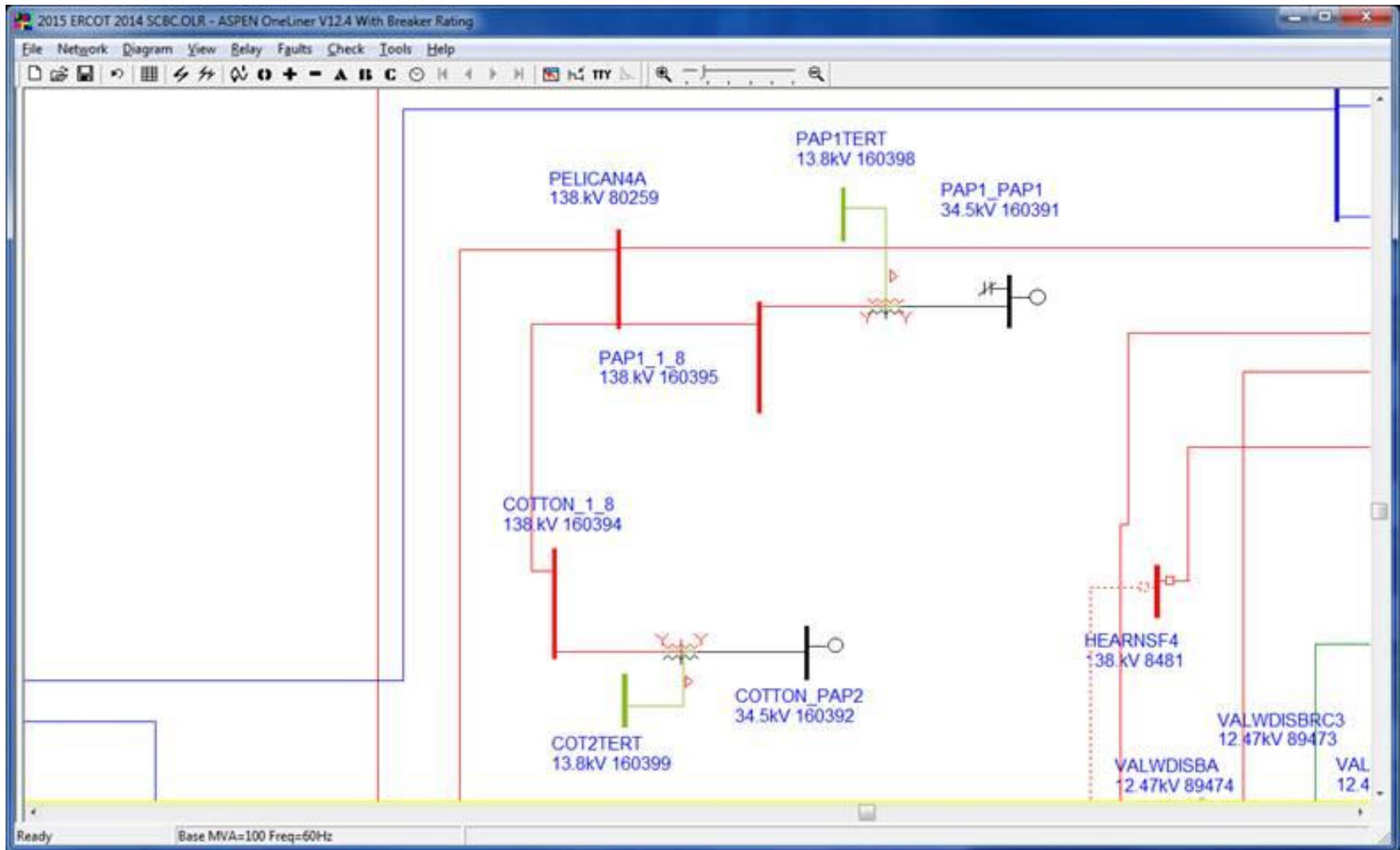


Q: What connection is missing? In 2014 Final, I see 1B to Whitetail1.

Papalote and Cotton wind farms this is the correct model as to total number of farms



Papalote and Cotton wind farms this is the incorrect model as to total number of farms



Comment: This is how the 2014CY model looks.

Cotton wind farm generator @ 160393 shows current limits and impedance values

Generator Data

Generators at 160393 COTTON_1 34.5kV

Unit 'A' On-Line	Edit
	On/Off-Line
	New
	Delete

Internal V-Source
p.u.= 1.
Ref. angle= 30.

Current Limits (A)
A: 1820.58 B: 0.

Power Flow Regulation
 Regulates voltage Fixed P+iQ output
Hold V= 1.025 pu
At PELICAN4A 138.kV 80259

Memo:

Tags: [None](#)

Done Help

Last changed Jul 11, 2013

Generating Unit Info

ID= A Unit rating= 98.9 MVA

Impedances (pu based on unit MVA)

Subtransient	0.0074	+j	0.6946	Fill
Transient	0.0074	+j	0.6946	
Synchronous	0.0074	+j	0.6946	
- sequence	0.0074	+j	0.6946	
o sequence	9999.	+j	9999.	

Neutral Impedance (in actual Ohms)

0.	+j	0.
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Scheduled generation. Enter MVAR for PQ buses only

MW= 0. MVAR= 0.

P and Q limits (MW and MVAR)

Pmax= 29.9	Qmax= 14.481
Pmin= 0.	Qmin= -14.481

OK Cancel Help

bus 160392 gen data

Generator Data

Generators at 160392 COTTON_PAP2 34.5kV

Unit 'G' On-Line	Edit
	On/Off-Line
	New
	Delete

Internal V-Source
p.u. = 1.
Ref. angle = 30.

Current Limits (A)
A: 1862.92 B: 0.

Power Flow Regulation
 Regulates voltage Fixed P+iQ output
Hold V = 1.025 pu
At PELICAN4A 138.kV 80259

Memo:

Tags: [None](#)

Done Help

Last changed Jul 11, 2013

Generating Unit Info

ID = 6 Unit rating = 101.2 MVA

Impedances (pu based on unit MVA)

Subtransient	0.0074	+j	0.6946	Fill
Transient	0.0074	+j	0.6946	
Synchronous	0.0074	+j	0.6946	
- sequence	0.0074	+j	0.6946	
o sequence	9999.	+j	9999.	

Neutral Impedance (in actual Ohms)
0. +j 0.

Scheduled generation. Enter MVAR for PQ buses only
MW = 0. MVAR = 0.

P and Q limits (MW and MVAR)
Pmax = 20.7 Qmax = 10.026
Pmin = 0. Qmin = -10.026

OK Cancel Help

Comment: 2014CY model "W1" (not "G") has different impedances.

Cotton wind farm generator no @ 160393 but bus 160392 data is here and different.

Generator Data

Generators at 160392 COTTON_PAP2 34.5kV

Unit 'W1' On-Line	Edit
	On/Off-Line
	New
	Delete

Internal V-Source
p.u.= 1.0
Ref. angle= 30.

Current Limits (A)
A: 10440. B: 10440.

Power Flow Regulation
 Regulates voltage Fixed P+iQ output
Hold V= 1.0275 pu
At PELICAN4A 138.kV 80259

Memo:

Tags: [None](#)

Done Help

Last changed Jun 16, 2014

Generating Unit Info

ID= W1 Unit rating= 101.2 MVA

Impedances (pu based on unit MVA)

Subtransient	0.	+j	0.556	Fill
Transient	0.	+j	0.909	
Synchronous	0.	+j	0.909	
- sequence	0.	+j	0.909	
o sequence	0.	+j	99999.	

Neutral Impedance (in actual Ohms)

99999.	+j	99999.
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Scheduled generation. Enter MVAR for PQ buses only

MW= 0. MVAR= 0.

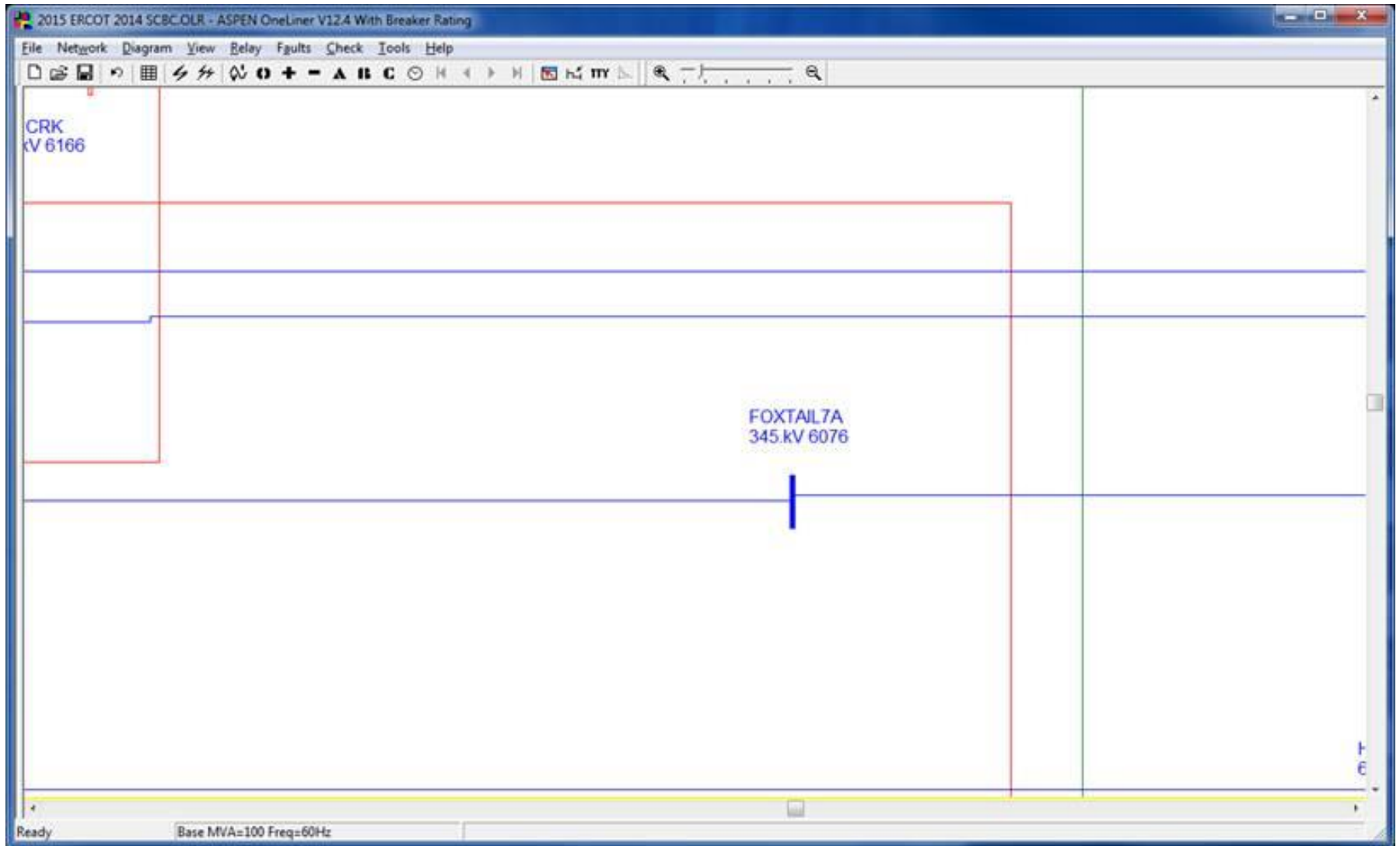
P and Q limits (MW and MVAR)

Pmax= 20.7	Qmax= 10.026
Pmin= 0.	Qmin= -10.026

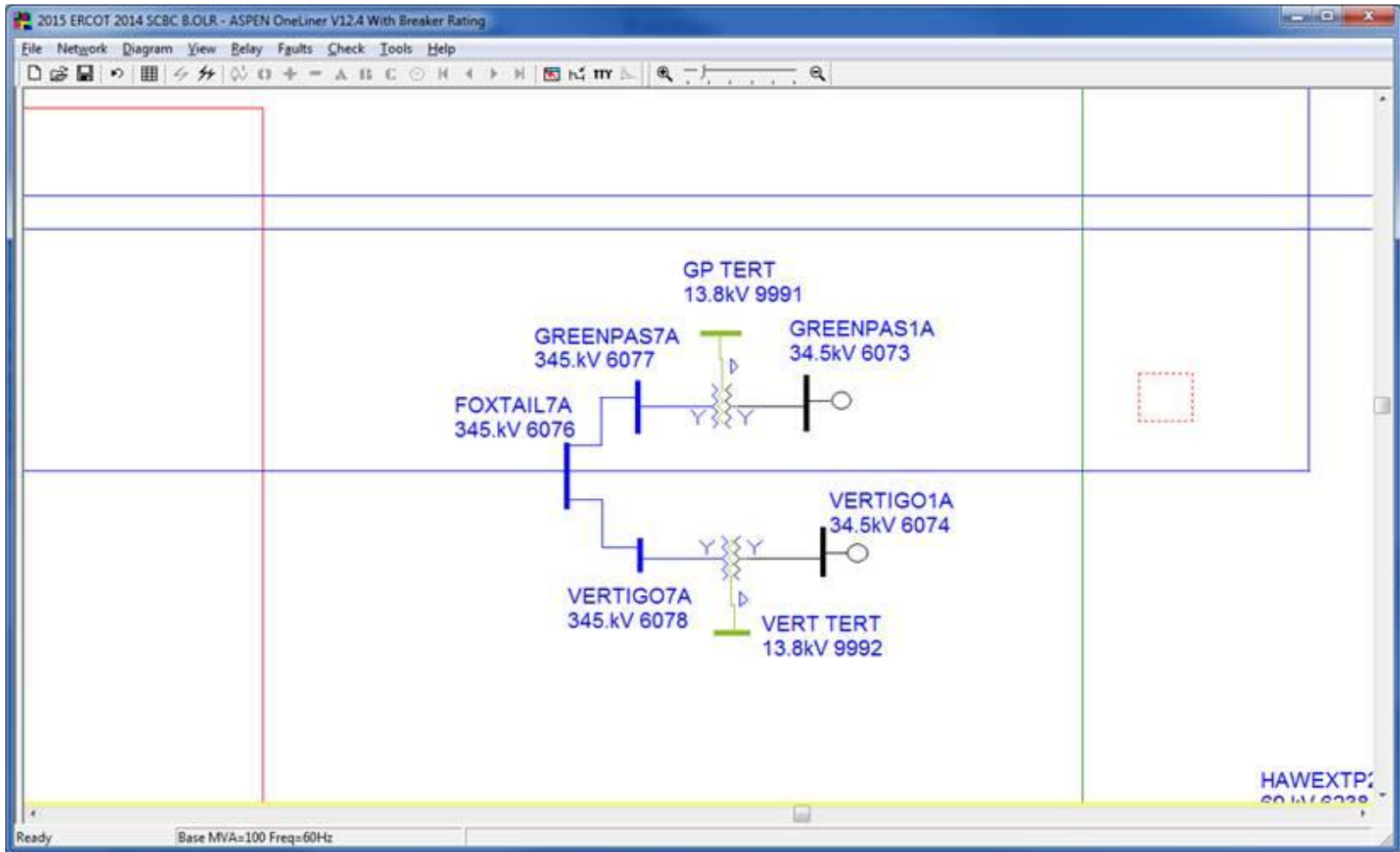
OK Cancel Help

Same issues with Papalote

IA was signed for a wind farm off of Foxtail bus 6076 but none modeled in the cases



I added the wind farms into my internal case because it is going online about Dec 1, 2014 and we had to get relay settings done.



Comment: This would be in the 2015+ FY cases, and not 2014CY, right?