EzEMF

Version 1.16 – September, 1998

Overview

EzEmf provides an easy way to input and calculate EMF effects on Transmission/Substation cross sections and to report the results to the State of Florida, Department of Environmental Protection, in a consistent manner.

An EMF project may consist of several cross sections which are divided into two groups: Transmission Lines and Substations. Each cross section consists of circuits which in turn are made up of conductors. The Florida Compliance Report will select and show the cross sections from each grouping which give the maximum EMF readings.

Background

EzEmf was developed by EzWare in 1998 for The Florida Electric Power Coordinating Group (FCG). The formulas for the electric and magnetic effects were derived from the Corona and Field Effect Program (Version 3), CORONA3 written by Paul Kingery in June 1991. Paul used previous versions of Bonneville Power Administration Corona and Field Effects Program as a guide. It is requested that credit be given to Bonneville Power Administration, US Department of Energy, as the source for the electric and magnetic calculations. The original version of the program was written for a CDC6600 by Vernon L. Chartier (with help from others). The first PC version (CORONAII) was written by Douglass Lewis in December, 1984. A variety of changes were made to that program by Russell S. Senior for T. Dan Bracken, Inc.

The electric and magnetic field equations are based upon classical electric and magnetic field theory applied to three phase transmission lines.

Ownership and Licensing

This program is owned jointly by EzWare and the Florida Electric Power Coordinating Group (FCG). The software may be used freely by all members of FCG. FCG may issue licensing for the use of the software to any company needing to issue Compliance Reports to the State of Florida, Department of Environmental Protection. EzWare retains all rights to further enhance and market the software.

Files included in the Installation

EzEmf.exe	The executable file
EzEmf.ini	File containing personalized defaults
Demo.emf	A demonstration project

Getting Started

1. Install EzEmf
2. Set Preferences
3. Create a New Project
4. Fill out the forms
5. Preview and/or print the desired forms
6. Save the Project
7. Exit

Installing EzEmf

You install EzEmf like any other Windows 95 or Windows NT 4.0 application. EzEmf comes on a single diskette.

1. If Windows 95 / Windows NT 4.0 isn't running, start it now.
2. Insert EzEmf Diskette in the appropriate floppy drive.
3. Click on the Start Button on the Taskbar. Windows will open the Start Menu.
4. Click on the Start Menu's "Run" selection. Windows will open the Run Dialog Box.
5. Type the drive letter of the floppy drive followed by ":\SETUP.EXE". For example, if the diskette is in Drive B, type "B:\SETUP.EXE".
6. Click on the OK Button. Windows will close the Run Dialog Box and load the setup program.
7. Follow the on-screen prompts to complete the installation.

Starting EzEmf

You can start EzEmf:

From the Start Menu
From My Computer or the Windows Explorer
From the Run Dialog Box

From the Start Menu

If you added EzEmf to your Start Menu during installation, then you can start EzEmf by selecting it from the Start Menu. If you used the default setup, it will appear in the EzEmf Folder, which will be in the Programs Folder:

1. Click on the Start Button on the Taskbar. Windows will open the Start menu.
2. Use the mouse to highlight "Programs" in the Start Menu. Windows will open the Programs Folder.
3. Highlight "EzEmf" in the Programs Folder. Windows will open the EzEmf Folder.
4. Click on "EzEmf".

From My Computer or the Windows Explorer

You can start EzEmf from My Computer or the Windows Explorer by double-clicking on EZEMF.EXE, or by hightlighting it and pressing <Enter>. You'll find EZEMF.EXE in the drive and folder that you entered during installation. If you use the default setup, EZEMF.EXE is in C:\Program Files\EzEmf.

From the Run Dialog Box

1. Click on the Start Button on the Taskbar. Windows will open the Start Menu.
2. Click on the Start Menu's "Run" selection. Windows will open the Run Dialog Box.
3. Type EzEmf's drive and folder, followed by "EZEMF.EXE". If you used the default setup, you would type "C:\Program Files\EzEmf.Exe". If you use a long path name, you must enclose the path in double quotes. If you don't know the path, click on the Browse Button and use the Browse Dialog Box to select it.
4. Click on the OK Button. Windows will close the Run Dialog Box and launch EzEmf.

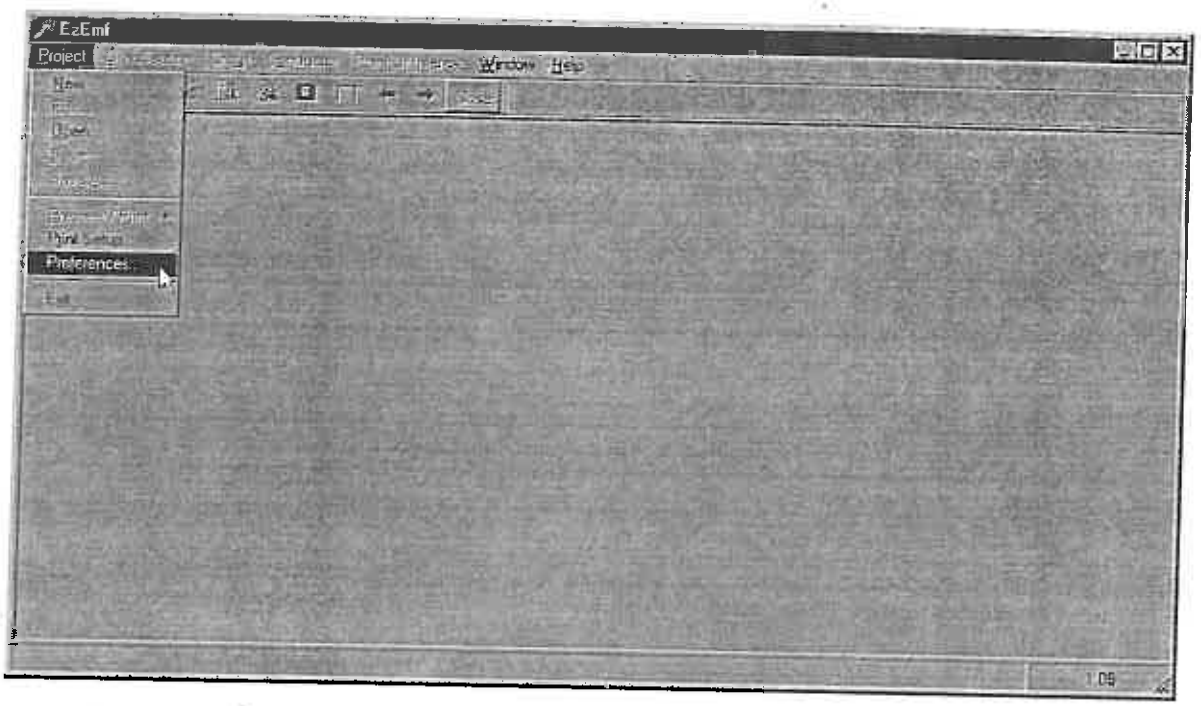
Activating EzEmf

If you're using another application and want to return to EzEmf, click on it's icon in the Taskbar.

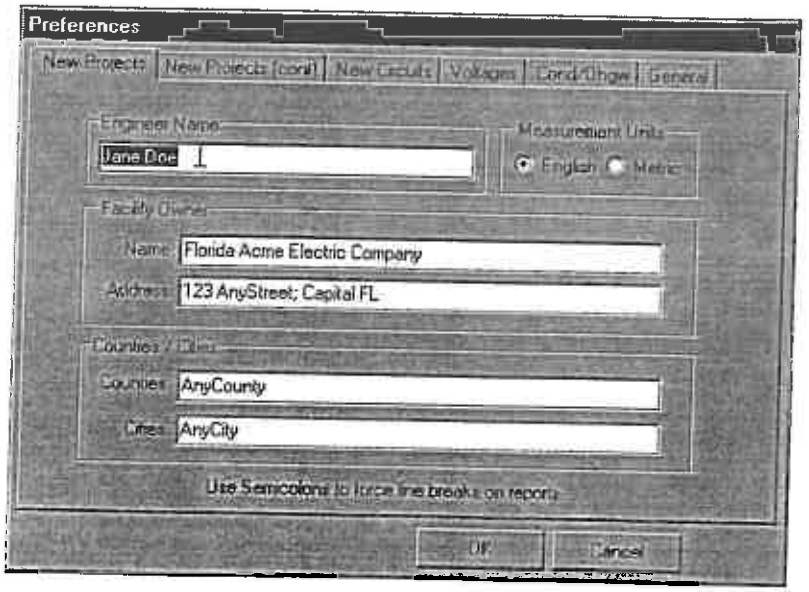
Set YOUR Preferences

Preferences will allow you to store default values for information which typically remains static across different projects. The preferences are used only when a new project is created, so changing them will have no effect on already existing projects.

From the Main Menu select Preferences under Project.



Fill out the information for each of the Tab pages

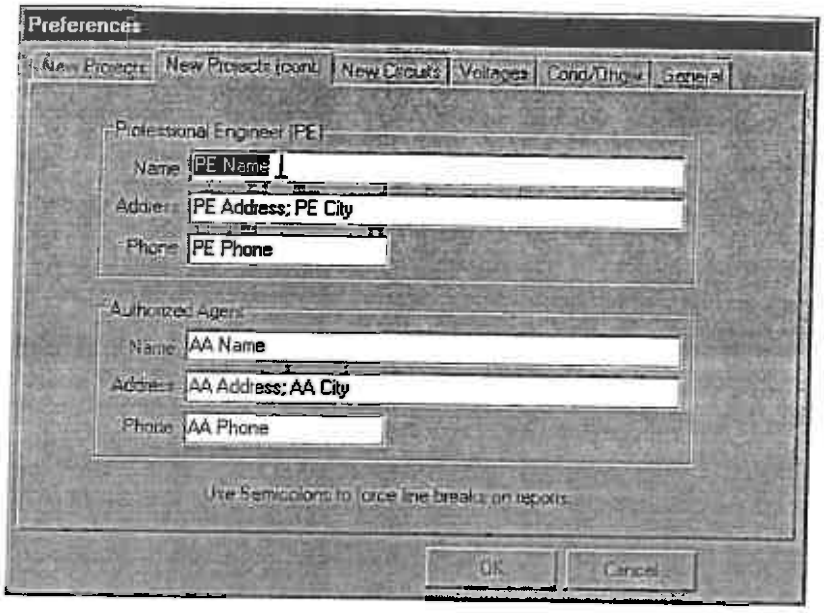


Engineer Name is used for reference only. It is not printed on any of the reports.

Measurement Units determine if English or metrics will be used in the dialogs and reports.

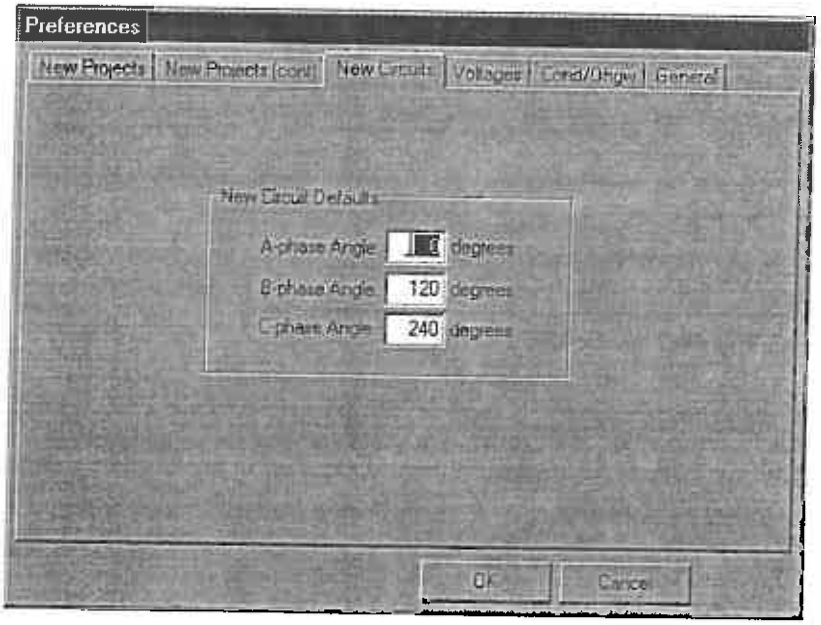
Facility Owner Name and **Address** is used on reports. Using mixed case letters will allow longer text to fit on the reports.

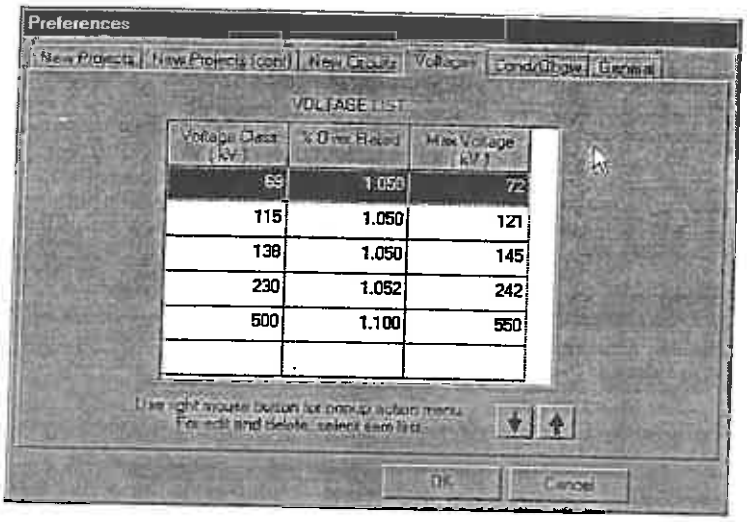
Counties is used on the TLSA Exemption Report. **Cities** is not used at this time.



Professional Engineer and **Authorized Agent** are used on the Compliance Report. Using mixed case letters will allow longer text to fit on the reports.

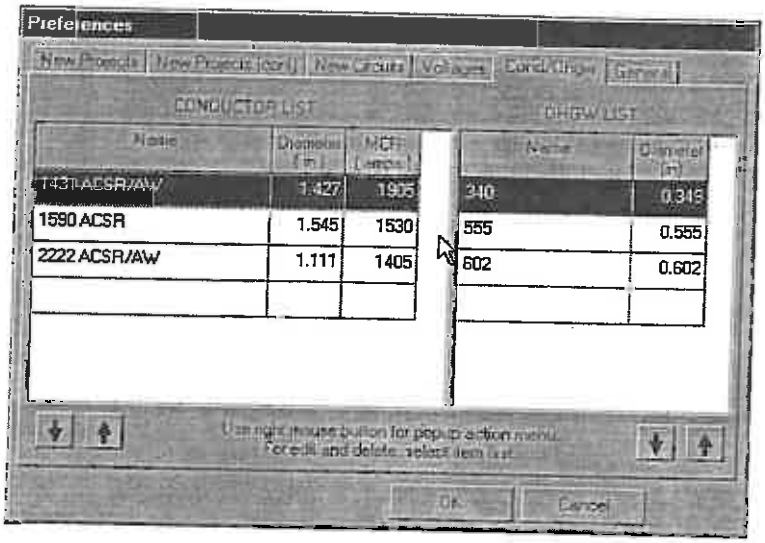
The **New Circuit Defaults** will set the phase angles as specified whenever a new circuit is created. This is the normal default, which can be overridden at the time of circuit creation.





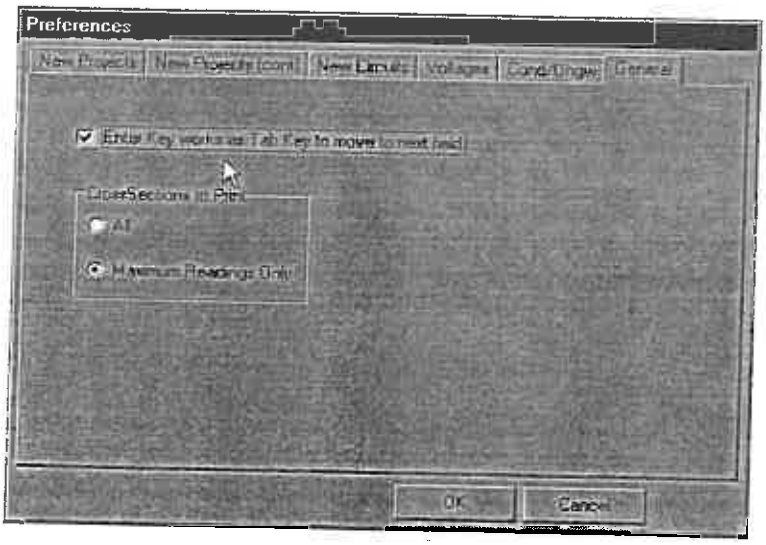
The **Voltage List** allows voltage class information to be saved. When a circuit is assigned a voltage class the associated data (% OverRate and Maximum Voltage) are retrieved from the list. Items may be added, deleted or modified.

Items are always inserted before the selected row. The arrow buttons allow you to sequence the list by moving items up and down.



The **Conductor List** and **Ohgw List** are similar to the Voltage List in that they allow associated information to be saved for use when a ciruit is created or modified.

Items are always inserted before the selected row. The arrow buttons allow you to sequence the list by moving items up and down.

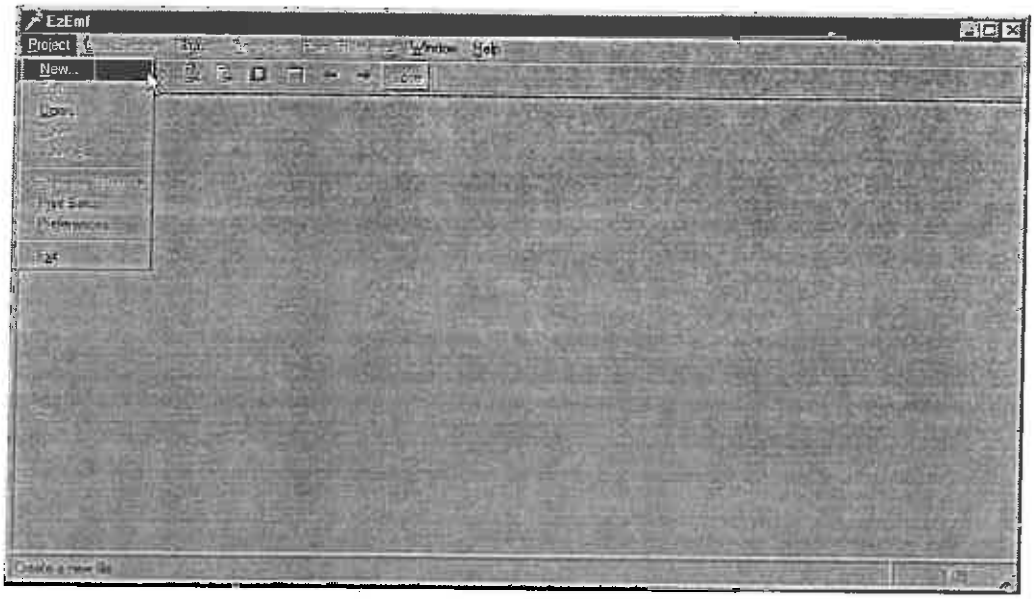


Enter Key works as Tab Key allows easier movement between fields on a dialog. Otherwise the Enter Key closes the current dialog with OK or CANCEL.

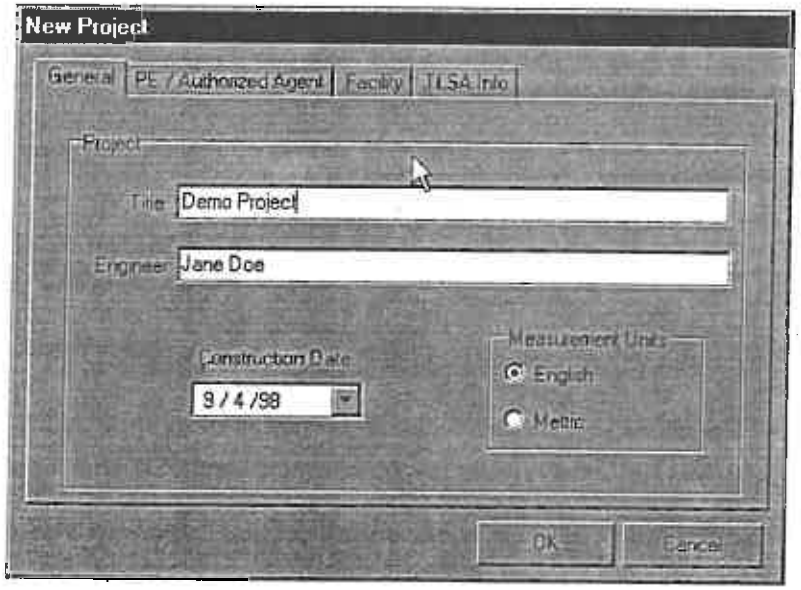
CrossSections to Print allows all cross-sections to print or only the pertinent ones, those with the maximum readings.

Create a New Project

From the Project menu item select New and complete the new Project Information



Fill out general project information

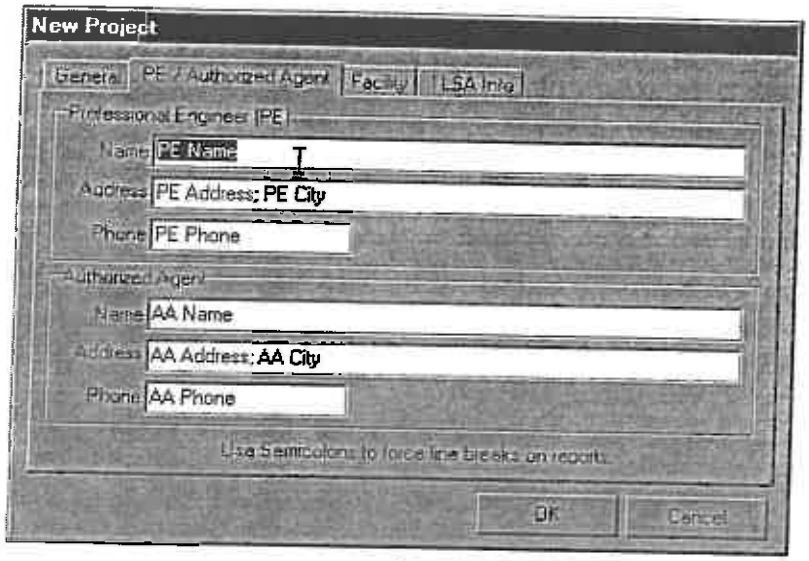


The **Project Title** is required and once set will enable the OK button. Using mixed case letters will allow longer text to fit on the reports.

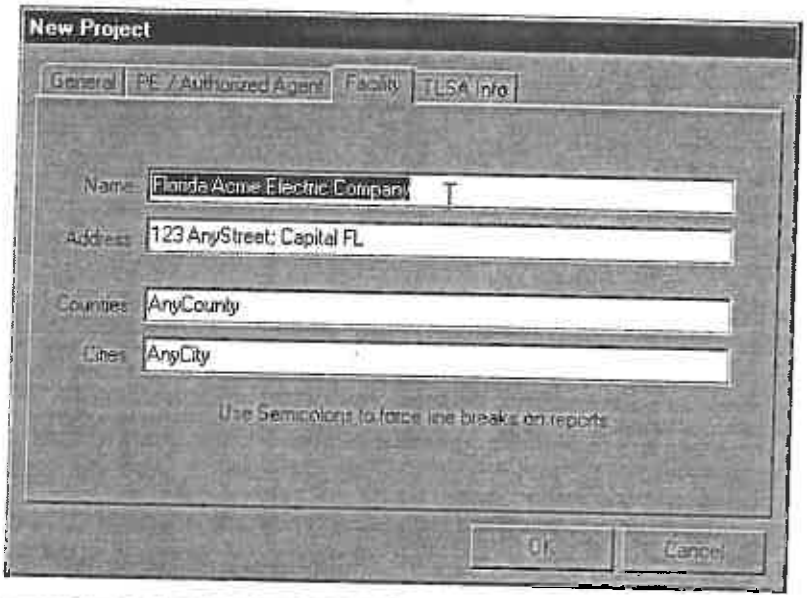
Engineer and **Measurement Units** are defaulted from your preferences.

Construction Date by default is the current date.

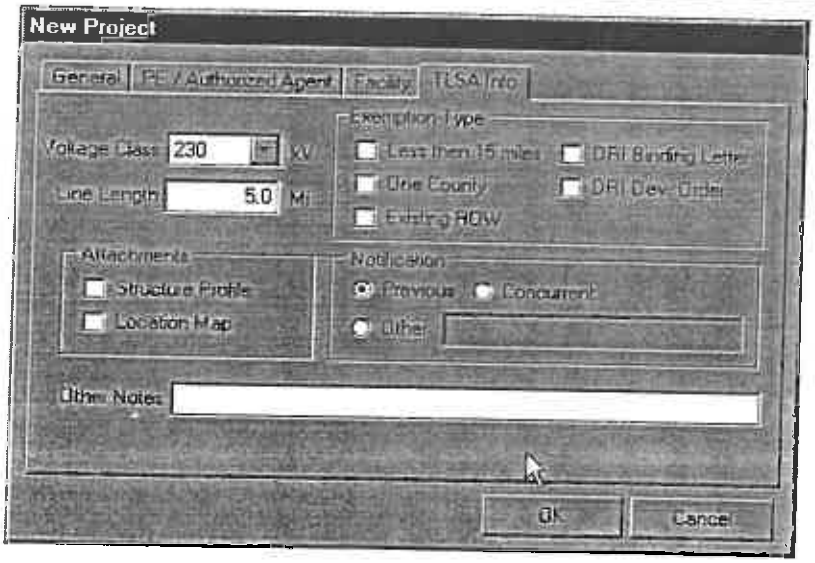
Measurement Units may be changed at any time and will automatically toggle all dialogs and reports to the desired units.



The **Professional Engineer** and **Authorized Agent** information is defaulted from your preferences. Override as necessary. (Note the semi-colon is used to force new-lines on the printed reports).



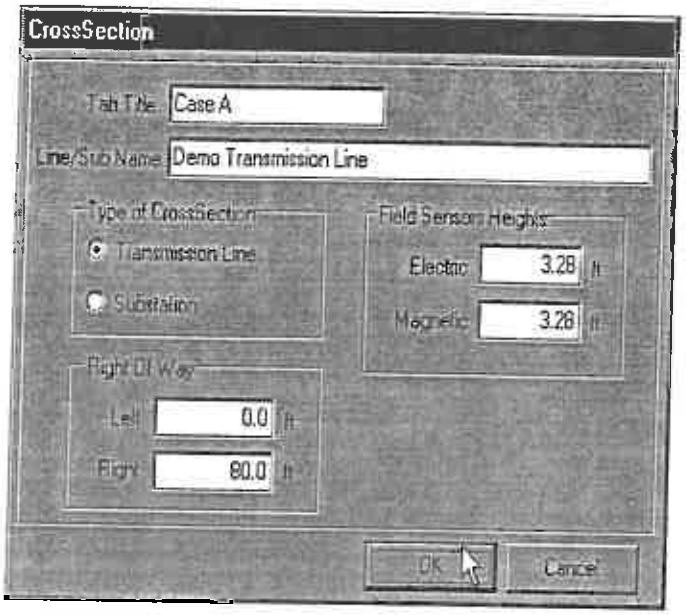
The **Facility Name** and **Address, Counties** and **Cities** are defaulted from your preferences. Override as necessary. Counties and Cities are for the location of the new facilities.



The **TLSA Info** is only necessary if the TLSA Exemption Report is to be generated. It is good practice, however, to enter known information if it is readily available.

Fill out CrossSection Information

(at least one is required)



The **Tab Title** is required and once set will enable the OK button. The **Tab Title** is an abbreviated form of the **Line/Sub Name** and will appear on both the CrossSection tab of the Project Window and as the CrossSection Name on Page 1 of the Florida Compliance Report. The **Line/Sub Name** will be used on the reports when details are printed.

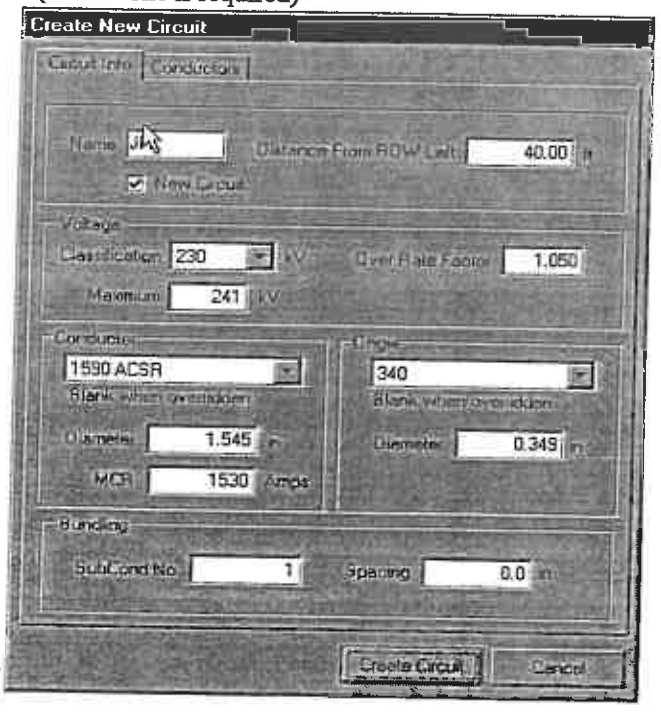
The **Type of CrossSection** will indicate the classification of the CrossSection as a Transmission Line or a Substation. Each group is handled separately in the Florida Compliance Report. All CrossSections of a particular group will be considered and the maximum readings will be drawn

Right Of Way Left is fixed at 0. **Right Of Way Right** is the same as the right-of-way width.

The **Field Sensors Heights** indicate the height at which the measurements are made. They should normally be left at 1 meter (3.28 ft).

Fill out New Circuit Information

(at least one is required)



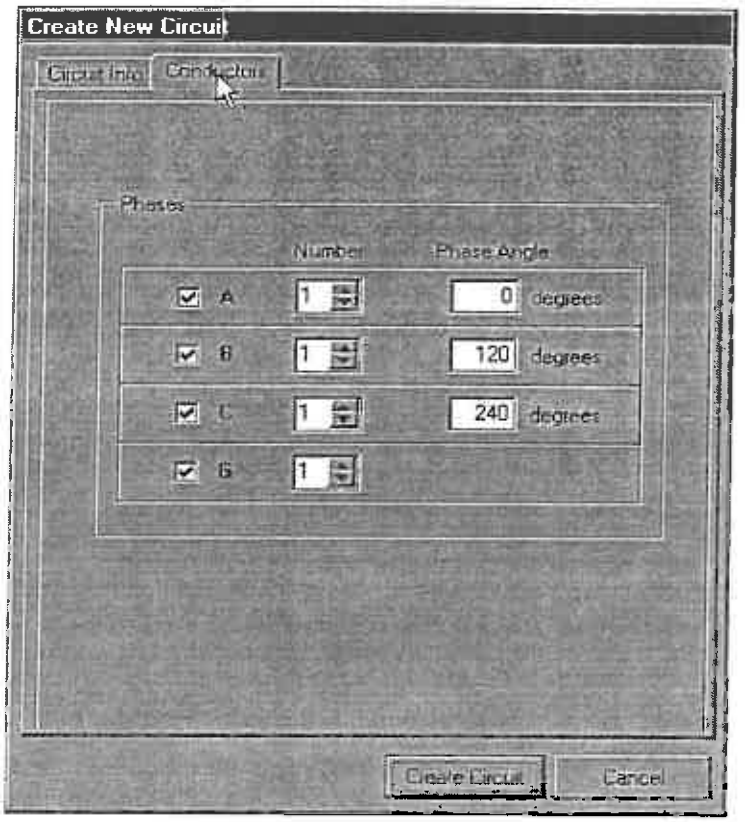
The **Circuit Name** is required and once set will enable the OK button.

Distance From ROW Left positions the circuit in relation to the right-of-way. All conductor coordinates are relative to this position.

The **New Circuit** checkbox indicates a new circuit and will be noted as such on the reports.

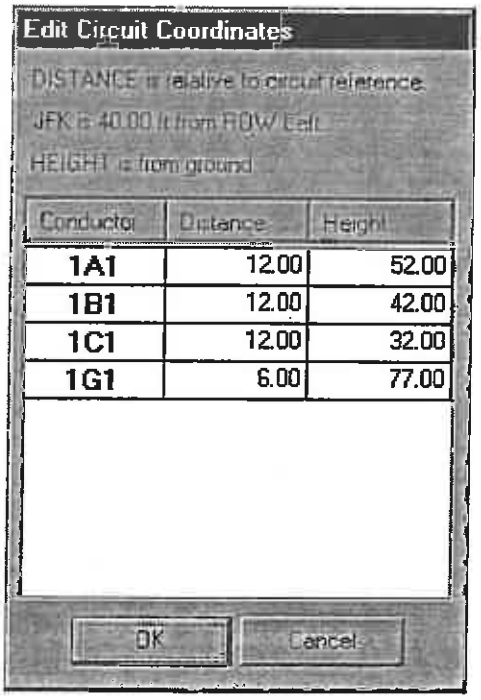
Selecting a **Voltage Classification, Conductor** or **Ohgw** from the appropriate listbox will automatically fill the associated data. (See Preferences for maintaining the listboxes). Fields may be overridden as desired.

Bundling SubCond/Spacing is used for specifying bundled conductors. Spacing should be 0 when only one conductor is used.

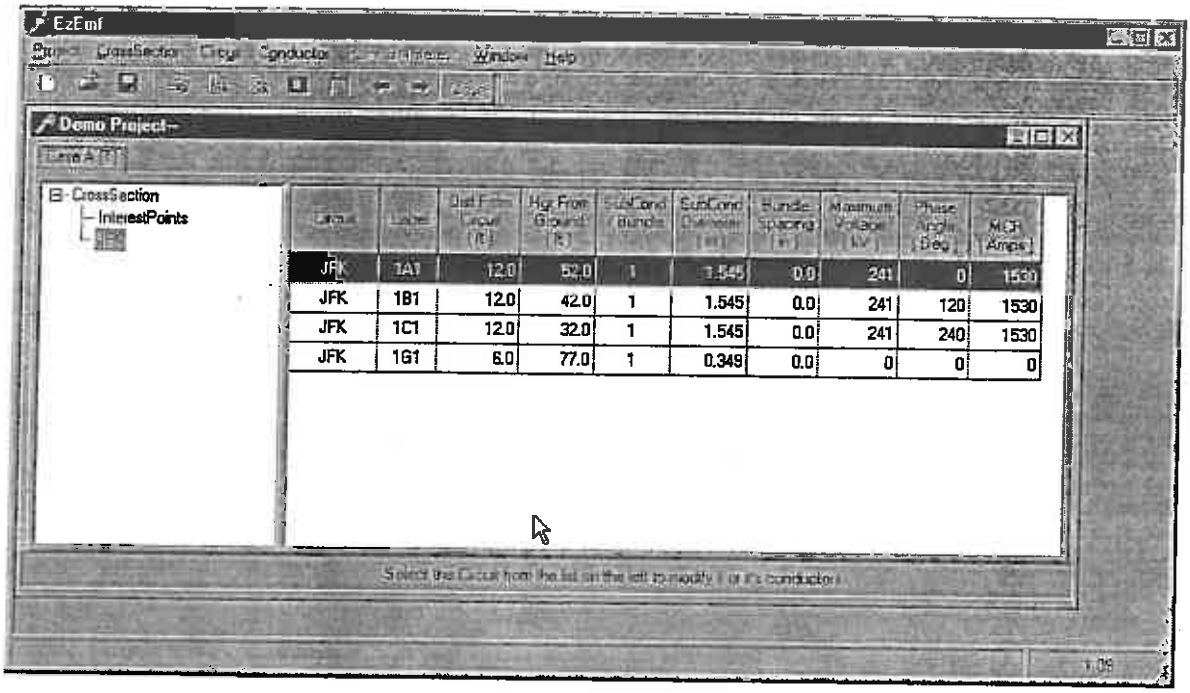


The **Conductor** information is automatically set based on your preferences and can be overridden as desired. Specify the number of conductors for each phase required for this new circuit. Multiple conductors will result in the same Phase Angle. This can be changed later by editing the individual conductors.

The **Conductor's** position is always relative to the circuit. The circuit's position in the right-of-way is specified on the New Circuit Form.

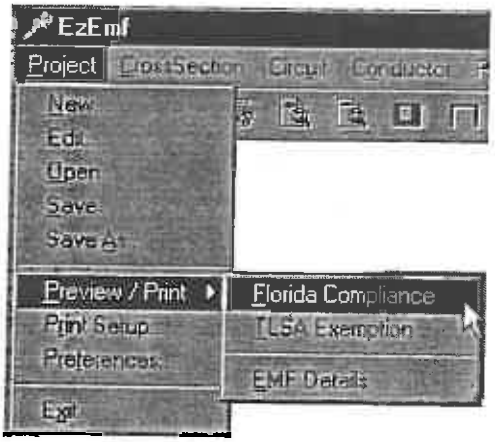


Finishing the Project



The project is now setup and should look similar to the above.

This is a good time to save your project to disk by selecting **Save** from the Project Menu. It is good practice to occasionally save your work in case of a computer failure.



The reports:
Florida Compliance
TLSA Exemption
EMF Details
can now be previewed and printed by selecting the Preview/Print button or by using the right clicking button- see page 15 for details.

Modifying a Project

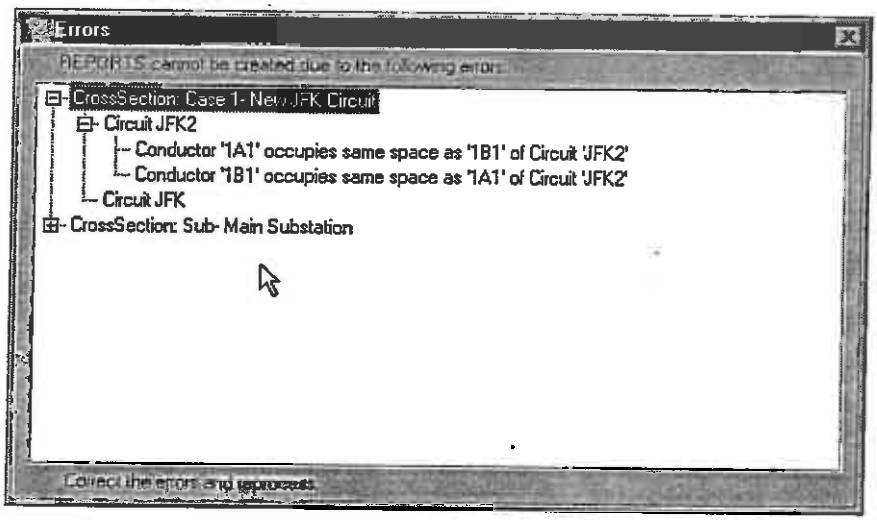
The dialogs for modifying the project are basically the same as for creating a new project. The dialog's title may be different like Edit Circuit instead of Create New Circuit and some key fields may not be editable.

Functions available:

- Project
  - Edit
- CrossSections
  - Create
  - Edit
  - Delete
  - Clone
- Circuits
  - Create
  - Edit
  - Delete
  - Clone
  - Edit the circuits conductor coordinates
- Conductors
  - Create
  - Edit
  - Delete

See the section on Right-Mouse Menus for some tips on Cloning CrossSections and Circuits.

Printing Reports



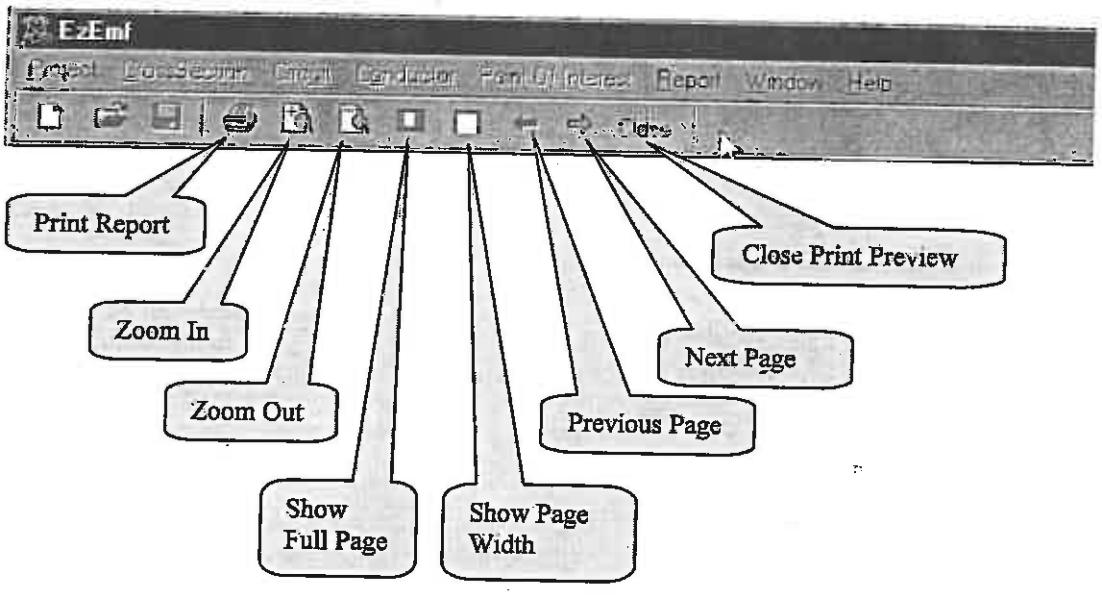
Calculations are automatically performed before any report is displayed. If errors exists the Errors dialog will be display instead of the report. Correct the described errors and reprocess the report.

The following reports are available:

Florida Compliance Report	The State of Florida approved Report on Compliance with Electric and Magnetic Field (EMF) Standards.
TLSA Exemption Report	This report will calculate and extrapolate the maximum EMF measurements from a group of CrossSections. Transmission Line Siting Act-Exemption Notification
EMF Details Report	Report showing details of Electric and Magnetic Measurements for the Florida Compliance Report.

All the reports will display as a preview when run. To physically print the report, click on the Print Report Button on the ToolBar.

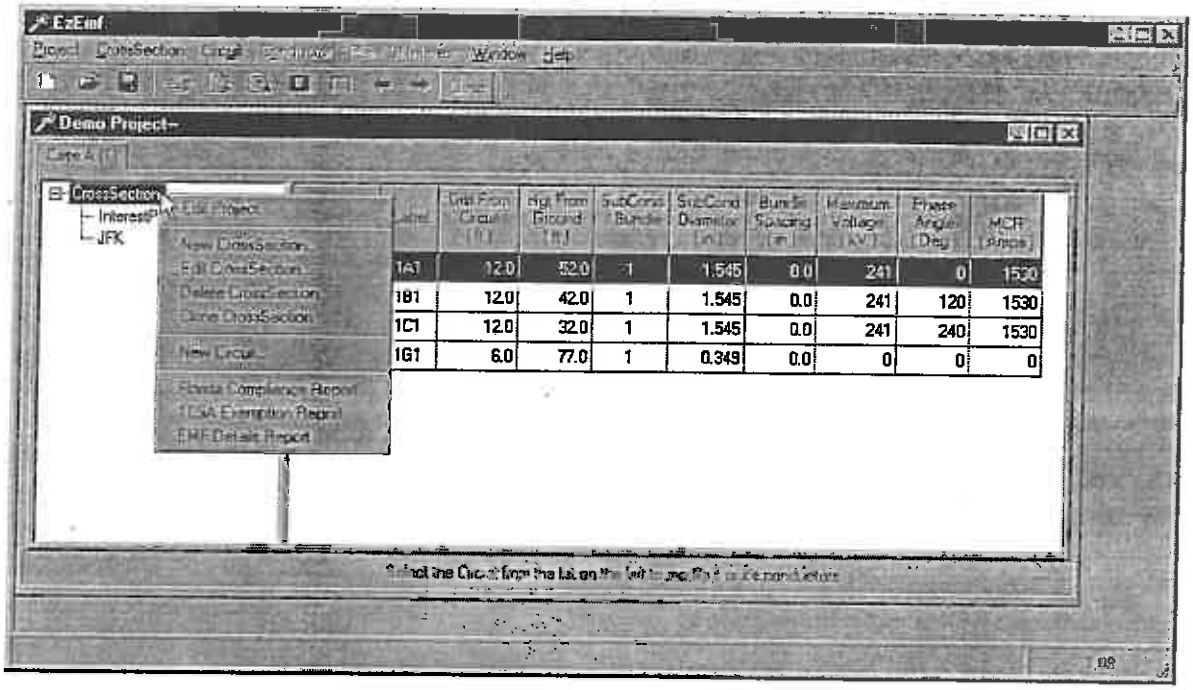
Print Preview ToolBar

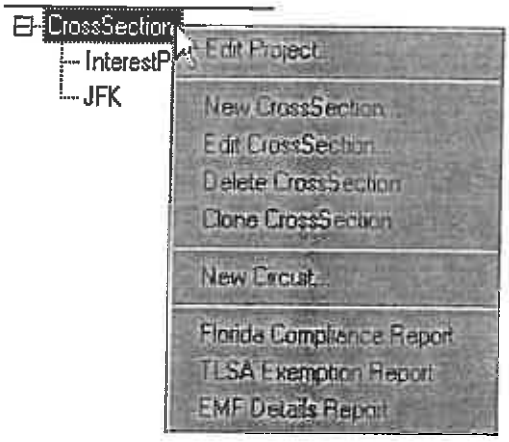


RIGHT MOUSE MENUS

The menus adjust based on the current selected item. The three types of drop-down menus (activated by a right-mouse click) are the CrossSection menu, the Circuit menu and the Conductor menu.

CrossSection – notice that the CrossSection is highlighted in the left panel.

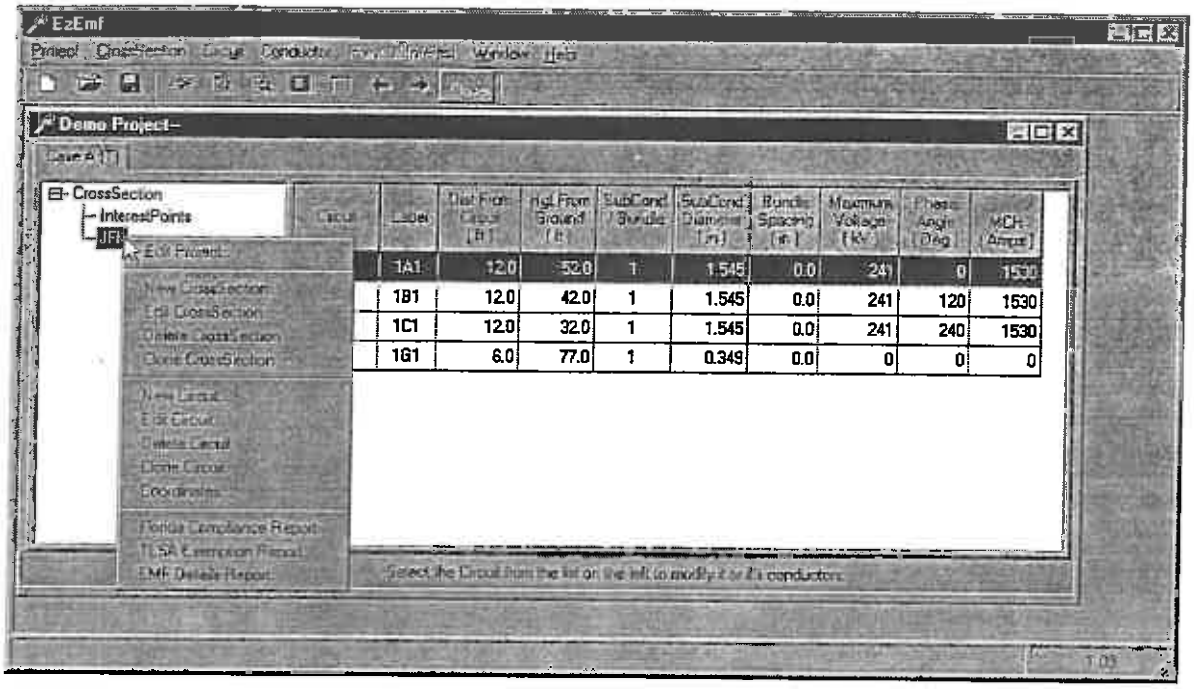


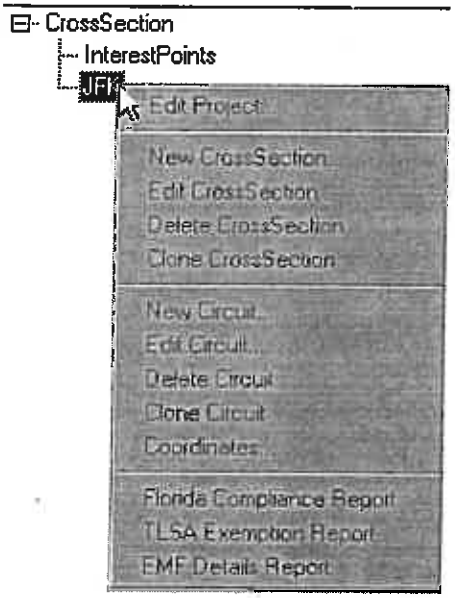


From this menu you can edit Project and CrossSection information, create a new circuit or preview/print the reports.

Notice the Clone CrossSection menu item. This allows you to quickly create another CrossSection when most of the circuit information is the same or similar. All information is duplicated to the new CrossSection. The Tab Title is set to (Clone) and (Clone) is appended to the Title. Once cloned these fields can be modified as desired by selecting the (Clone) tab and editing the CrossSection.

Circuit– notice that a particular circuit is highlighted in the left panel.

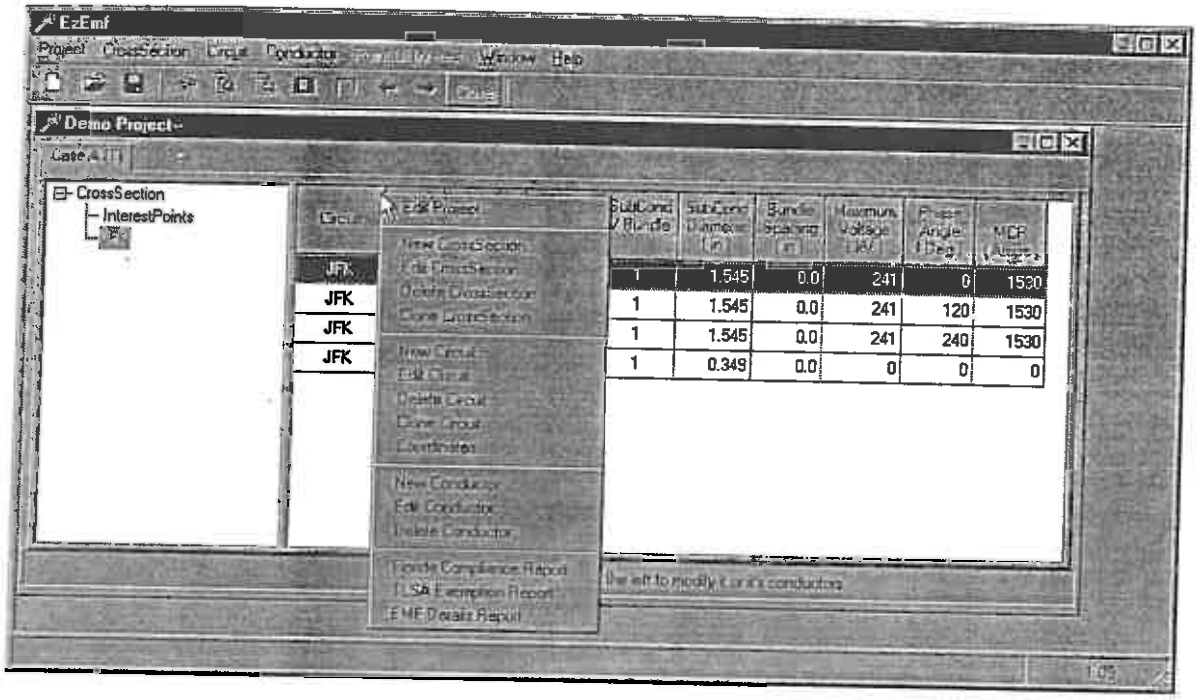


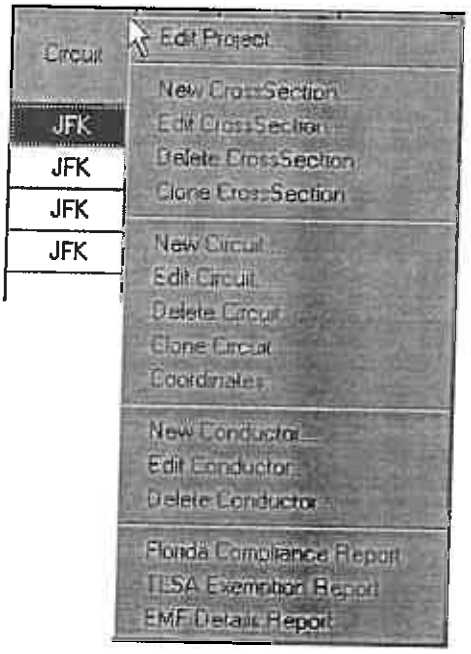


From this menu you can edit Project, CrossSection and Circuit information including Conductor coordinates. The reports can also be previewed and printed.

Notice the Clone Circuit menu item. This allows you to quickly create another Circuit when most of the conductor information is the same or similar. All information is duplicated to the new Circuit. The Circuit Name is set to (Clone) and the Circuit number is automatically set. Once cloned the name can be modified as desired by editing the (Clone)'d circuit. Make sure to change the (clone)'d circuits distance from ROW Left and/or coordinates or the reports will not run! (Conductors cannot occupy the same space).

Conductor– notice that a particular circuit is highlighted in the left panel and a conductor in the right.





From this menu you can edit Project, CrossSection, Circuit and Conductor information. The reports can also be previewed and printed.

Report Examples

Florida Department of Environmental Protection
Twin Tower Office Bldg * 2600 Blair Stone Road * Tallahassee, Florida 32399-2400

Report on Compliance with Electric and Magnetic Field (EMF) Standards

Agent/Facility Information

EzEmf Demo Project
Name of Transmission Line/InterestPoint

June 12, 1998
Date of Proposed Construction

ACME ELECTRIC
1234 ROADRUNNER BLVD
BEEPBEEP, AZ. 56789
Name and Address of Facility (Utility) Owner

John Doe, PE
MS: Eng
123 Main Street
Anywhere, FL 33123
Name and Address of Professional Engineer

Amy Agent
MS: X1
123 Main Street
Anywhere, FL 33123
Name and Address of Authorized Agent

Signature of Authorized Agent

Date

Signature and Seal of Professional Engineer

Date

Field Strength Information

Transmission Lines

Cross Section	Right-of-Way (ROW) Width (ft)	Maximum Calculated Fields and Distance From ROW Left					
		Electric				Magnetic	
		Within ROW		At Edge of ROW		At Edge of ROW	
		(kV/m)	(ft)	(kV/m)	(ft)	(mG)	(ft)
Case 1	80	**1.4**	22	**0.6**	0	**49.0**	80

Substations

Substation Name	Maximum Calculated Fields and Distance from Left ROW			
	Electric	Distance	Magnetic	Distance
	(kV/m)	(ft)	(mG)	(ft)
Sub	**0.58**	0	**49.0**	80

Details for CrossSection: **Case 1- New JFK Circuit**

JFK2 (Circuit Name) — 230 kV (Rated Voltage) — **NEW CIRCUIT** (New/Existing)

Id	Dist From Left ROW (ft)	Dist From Circuit CL (ft)	Minimum Height (ft)	SubConductors # of	SubConductors Diameter (in)	SubConductors Spacing (in)	Maximum Voltage (kV)	Angle (Degrees)	MCR (Amps)
1A1	28.00	-12.00	52.00	1	1.54	0.00	241.0	0	1530
1B1	28.00	-12.00	42.00	1	1.54	0.00	241.0	120	1530
1C1	28.00	-12.00	32.00	1	1.54	0.00	241.0	-120	1530
1G1	34.00	-6.00	77.00	1	0.35	0.00	0.0	0	0

JFK (Circuit Name) — 230 kV (Rated Voltage) — **Existing Circuit** (New/Existing)

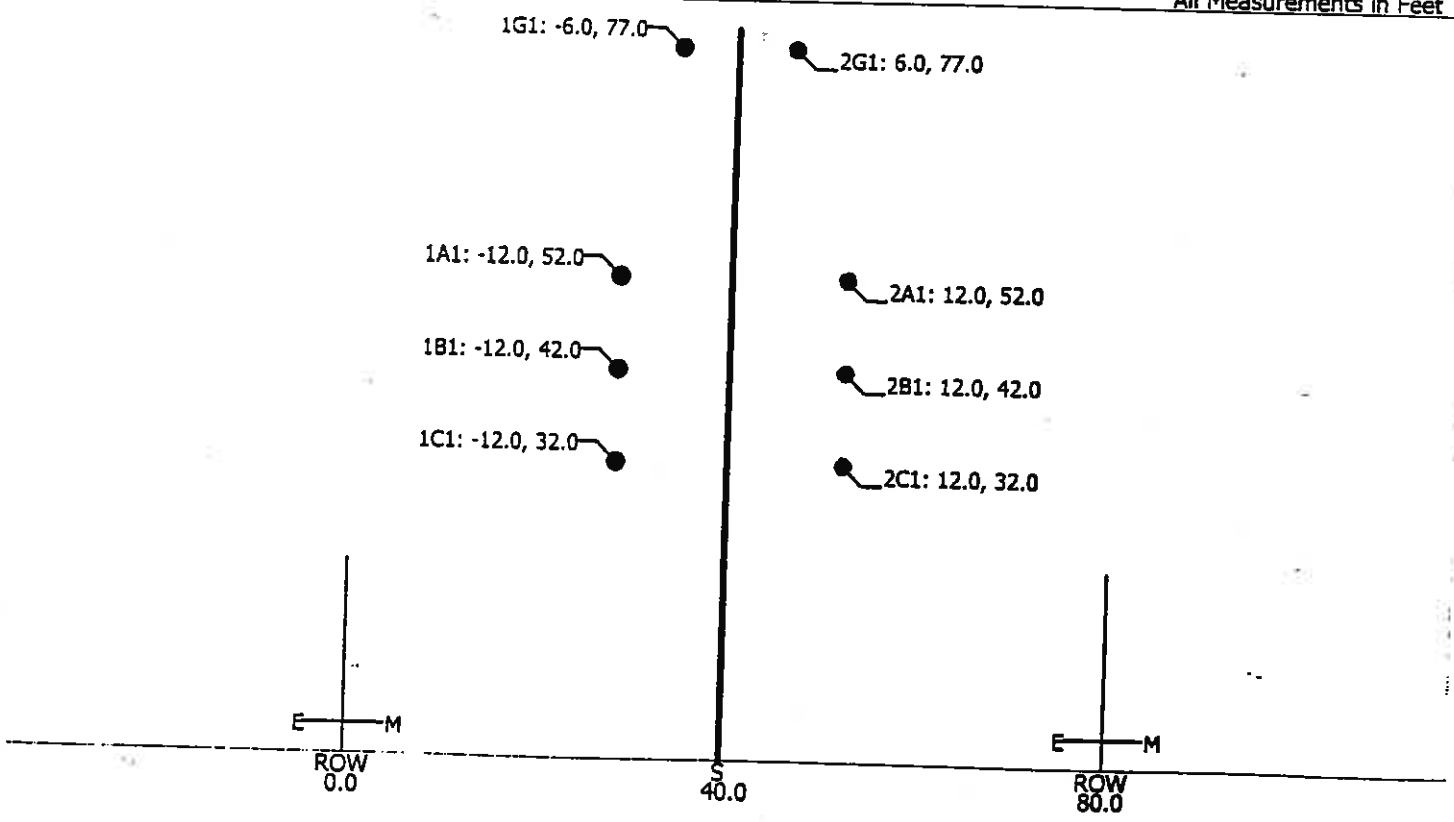
Id	Dist From Left ROW (ft)	Dist From Circuit CL (ft)	Minimum Height (ft)	SubConductors # of	SubConductors Diameter (in)	SubConductors Spacing (in)	Maximum Voltage (kV)	Angle (Degrees)	MCR (Amps)
2A1	52.00	12.00	52.00	1	1.54	0.00	241.0	180	1530
2B1	52.00	12.00	42.00	1	1.54	0.00	241.0	-60	1530
2C1	52.00	12.00	32.00	1	1.54	0.00	241.0	60	1530
2G1	46.00	6.00	77.00	1	0.35	0.00	0.0	0	0

Points of Interest

None

Phase Configuration

All Measurements in Feet



Details for CrossSection: **Sub- Main Substation**

LEFT (Circuit Name) | 230 kV (Rated Voltage) | NEW CIRCUIT (New/Existing)

Id	Dist From Left ROW (ft)	Dist From Circuit CL (ft)	Minimum Height (ft)	SubConductors # of	SubConductors Diameter (in)	SubConductors Spacing (in)	Maximum Voltage (kV)	Angle (Degrees)	MCR (Amps)
1A1	28.00	-12.00	52.00	1	1.54	0.00	241.0	0	1530
1B1	28.00	-12.00	42.00	1	1.54	0.00	241.0	120	1530
1C1	28.00	-12.00	32.00	1	1.54	0.00	241.0	-120	1530
1G1	34.00	-6.00	77.00	1	0.35	0.00	0.0	0	0

RIGHT (Circuit Name) | 230 kV (Rated Voltage) | NEW CIRCUIT (New/Existing)

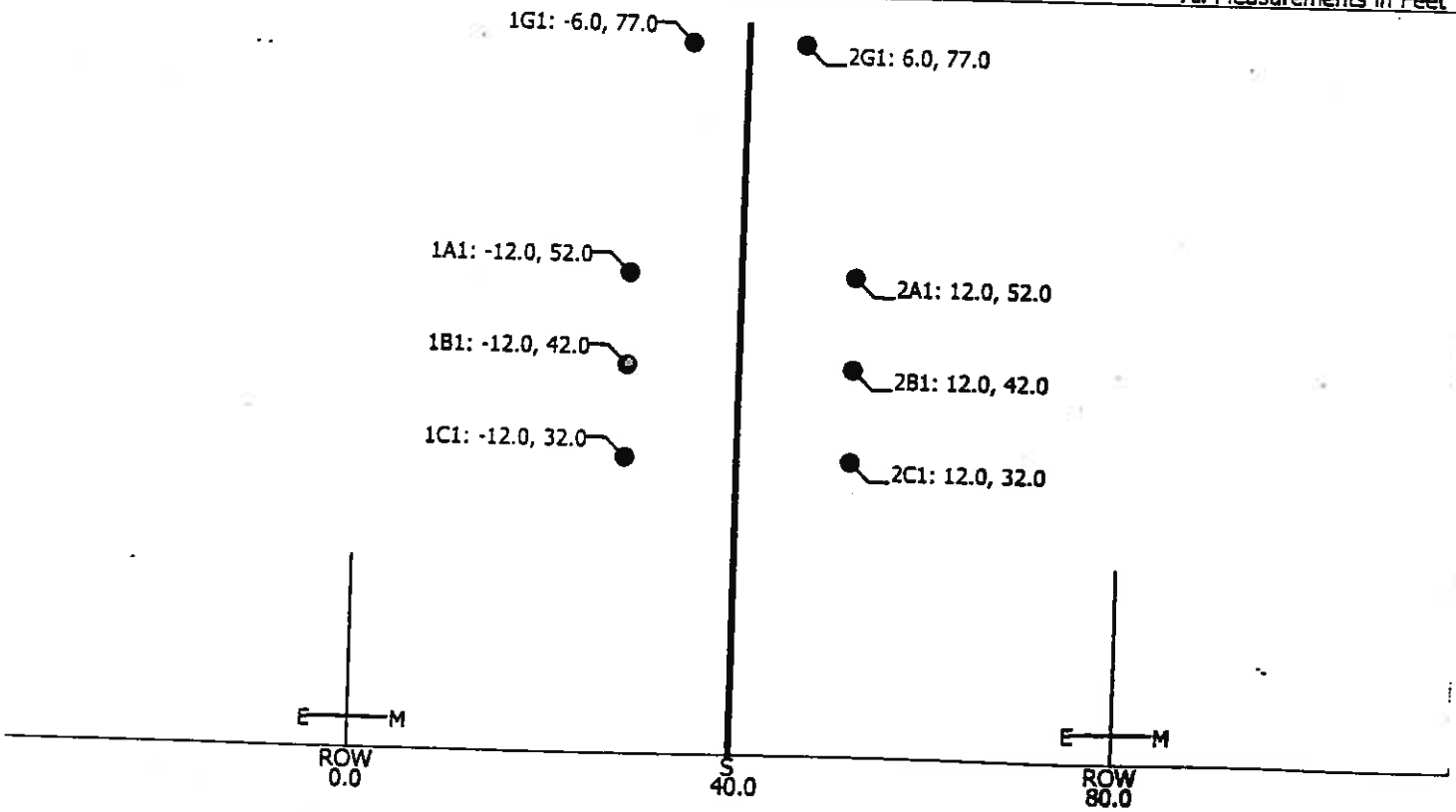
Id	Dist From Left ROW (ft)	Dist From Circuit CL (ft)	Minimum Height (ft)	SubConductors # of	SubConductors Diameter (in)	SubConductors Spacing (in)	Maximum Voltage (kV)	Angle (Degrees)	MCR (Amps)
2A1	52.00	12.00	52.00	1	1.54	0.00	241.0	180	1530
2B1	52.00	12.00	42.00	1	1.54	0.00	241.0	-60	1530
2C1	52.00	12.00	32.00	1	1.54	0.00	241.0	60	1530
2G1	46.00	6.00	77.00	1	0.35	0.00	0.0	0	0

Points of Interest

None

Phase Configuration

All Measurements in Feet



TLSA EXEMPTION NOTIFICATION

ACME ELECTRIC

EzEmf Demo Project
Name of Transmission Line/Substation

COYOTE
Counties

4.2 mi
Length

230 kV
Voltage

June, 12 1998
Anticipated Construction Start Date

EXEMPTION TYPE: per ch 403 F.S.

- [ ] Less than 15 miles [403.524(d)]
- [X] One County [403.524(d)]
- [ ] Existing ROW [403.524(c)]
- [ ] DRI Binding Letter [403.524(b)]
- [ ] DRI Dev. Order [403.524(a)]

STRUCTURE PROFILE ATTACHED [X] Yes [ ] No

LOCATION MAP ATTACHED [ ] Yes [X] No

EMF NOTIFICATION:
- [X] Previously Submitted
- [ ] Concurrently Submitted
- [ ] Other (explain)

Other Notes

Submitted By | Phone | Date

Electric and Magnetic Field Effects

EzEmf Demo Project

Units: **English** Physical System: **8** Conductors (**6** Energized Phases)
E-Field Transducer Height **3.28** ft B-Field Transducer Height **3.28** ft

CrossSection: **Case 1- New JFK Circuit**

Circuit Name	Id	Dist From Left ROW (ft)	Dist From Circuit CL (ft)	Minimum Height (ft)	SubConductors			Maximum Voltage (kV)	Angle (Degrees)	MCR (Amps)
					# of	Diameter (in)	Spacing (in)			
JFK2	1A1	28.00	-12.00	52.00	1	1.54	0.00	241.0	0	1530
JFK2	1B1	28.00	-12.00	42.00	1	1.54	0.00	241.0	120	1530
JFK2	1C1	28.00	-12.00	32.00	1	1.54	0.00	241.0	-120	1530
JFK2	1G1	34.00	-6.00	77.00	1	0.35	0.00	0.0	0	0
JFK	2A1	52.00	12.00	52.00	1	1.54	0.00	241.0	180	1530
JFK	2B1	52.00	12.00	42.00	1	1.54	0.00	241.0	-60	1530
JFK	2C1	52.00	12.00	32.00	1	1.54	0.00	241.0	60	1530
JFK	2G1	46.00	6.00	77.00	1	0.35	0.00	0.0	0	0

Dist From RowLeft (ft)	Electric Field (kV/m)	Magnetic Field (mG)
0.00	**0.58**	**49.02**
80.00	**0.58**	**49.02**
-4.00	0.44	42.01
-3.00	0.47	43.66
-2.00	0.51	45.37
-1.00	0.54	47.16
0.00	0.58	49.02
1.00	0.62	50.95
2.00	0.66	52.96
3.00	0.70	55.04
4.00	0.75	57.20
5.00	0.79	59.43
6.00	0.84	61.74
7.00	0.89	64.12
8.00	0.93	66.57
9.00	0.98	69.10
10.00	1.03	71.69
11.00	1.08	74.35
12.00	1.12	77.06
13.00	1.17	79.83
14.00	1.21	82.65
15.00	1.25	85.51
16.00	1.29	88.39
17.00	1.32	91.30
18.00	1.35	94.22
19.00	1.38	97.13
20.00	1.40	100.03
21.00	1.41	102.90
22.00	1.41	105.72
23.00	1.41	108.49

Dist From RowLeft (ft)	Electric Field (kV/m)	Magnetic Field (mG)
24.00	1.40	111.19
25.00	1.38	113.80
26.00	1.35	116.31
27.00	1.32	118.71
28.00	1.27	120.97
29.00	1.21	123.10
30.00	1.15	125.08
31.00	1.08	126.89
32.00	1.00	128.54
33.00	0.91	130.01
34.00	0.83	131.29
35.00	0.73	132.39
36.00	0.64	133.29
37.00	0.56	134.00
38.00	0.49	134.50
39.00	0.44	134.80
40.00	0.42	134.91
41.00	0.44	134.80
42.00	0.49	134.50
43.00	0.56	134.00
44.00	0.64	133.29
45.00	0.73	132.39
46.00	0.83	131.29
47.00	0.91	130.01
48.00	1.00	128.54
49.00	1.08	126.89
50.00	1.15	125.08
51.00	1.21	123.10
52.00	1.27	120.97
53.00	1.32	118.71

Dist From RowLeft (ft)	Electric Field (kV/m)	Magnetic Field (mG)
54.00	1.35	116.31
55.00	1.38	113.80
56.00	1.40	111.19
57.00	1.41	108.49
58.00	1.41	105.72
59.00	1.41	102.90
60.00	1.40	100.03
61.00	1.38	97.13
62.00	1.35	94.22
63.00	1.32	91.30
64.00	1.29	88.39
65.00	1.25	85.51
66.00	1.21	82.65
67.00	1.17	79.83
68.00	1.12	77.06
69.00	1.08	74.35
70.00	1.03	71.69
71.00	0.98	69.10
72.00	0.93	66.57
73.00	0.89	64.12
74.00	0.84	61.74
75.00	0.79	59.43
76.00	0.75	57.20
77.00	0.70	55.04
78.00	0.66	52.96
79.00	0.62	50.95
80.00	0.58	49.02
81.00	0.54	47.16
82.00	0.51	45.37
83.00	0.47	43.66

Dist From RowLeft (ft)	Electric Field (kV/m)	Magnetic Field (mG)
84.00	0.44	42.01

Electric and Magnetic Field Effects

EzEmf Demo Project

Units: **English** Physical System: **8** Conductors (**6** Energized Phases)
E-Field Transducer Height **3.28** ft B-Field Transducer Height **3.28** ft

CrossSection: **Sub- Main Substation**

Circuit Name	Id	Dist From Left ROW (ft)	Dist From Circuit CL (ft)	Minimum Height (ft)	SubConductors # of	SubConductors Diameter (in)	SubConductors Spacing (in)	Maximum Voltage (kV)	Angle (Degrees)	MCR (Amps)
LEFT	1A1	28.00	-12.00	52.00	1	1.54	0.00	241.0	0	1530
LEFT	1B1	28.00	-12.00	42.00	1	1.54	0.00	241.0	120	1530
LEFT	1C1	28.00	-12.00	32.00	1	1.54	0.00	241.0	-120	1530
LEFT	1G1	34.00	-6.00	77.00	1	0.35	0.00	0.0	0	0
RIGHT	2A1	52.00	12.00	52.00	1	1.54	0.00	241.0	180	1530
RIGHT	2B1	52.00	12.00	42.00	1	1.54	0.00	241.0	-60	1530
RIGHT	2C1	52.00	12.00	32.00	1	1.54	0.00	241.0	60	1530
RIGHT	2G1	46.00	6.00	77.00	1	0.35	0.00	0.0	0	0

Dist From RowLeft (ft)	Electric Field (kV/m)	Magnetic Field (mG)
0.00	**0.58**	**49.02**
80.00	**0.58**	**49.02**
-4.00	0.44	42.01
-3.00	0.47	43.66
-2.00	0.51	45.37
-1.00	0.54	47.16
0.00	0.58	49.02
1.00	0.62	50.95
2.00	0.66	52.96
3.00	0.70	55.04
4.00	0.75	57.20
5.00	0.79	59.43
6.00	0.84	61.74
7.00	0.89	64.12
8.00	0.93	66.57
9.00	0.98	69.10
10.00	1.03	71.69
11.00	1.08	74.35
12.00	1.12	77.06
13.00	1.17	79.83
14.00	1.21	82.65
15.00	1.25	85.51
16.00	1.29	88.39
17.00	1.32	91.30
18.00	1.35	94.22
19.00	1.38	97.13
20.00	1.40	100.03
21.00	1.41	102.90
22.00	1.41	105.72
23.00	1.41	108.49

Dist From RowLeft (ft)	Electric Field (kV/m)	Magnetic Field (mG)
24.00	1.40	111.19
25.00	1.38	113.80
26.00	1.35	116.31
27.00	1.32	118.71
28.00	1.27	120.97
29.00	1.21	123.10
30.00	1.15	125.08
31.00	1.08	126.89
32.00	1.00	128.54
33.00	0.91	130.01
34.00	0.83	131.29
35.00	0.73	132.39
36.00	0.64	133.29
37.00	0.56	134.00
38.00	0.49	134.50
39.00	0.44	134.80
40.00	0.42	134.91
41.00	0.44	134.80
42.00	0.49	134.50
43.00	0.56	134.00
44.00	0.64	133.29
45.00	0.73	132.39
46.00	0.83	131.29
47.00	0.91	130.01
48.00	1.00	128.54
49.00	1.08	126.89
50.00	1.15	125.08
51.00	1.21	123.10
52.00	1.27	120.97
53.00	1.32	118.71

Dist From RowLeft (ft)	Electric Field (kV/m)	Magnetic Field (mG)
54.00	1.35	116.31
55.00	1.38	113.80
56.00	1.40	111.19
57.00	1.41	108.49
58.00	1.41	105.72
59.00	1.41	102.90
60.00	1.40	100.03
61.00	1.38	97.13
62.00	1.35	94.22
63.00	1.32	91.30
64.00	1.29	88.39
65.00	1.25	85.51
66.00	1.21	82.65
67.00	1.17	79.83
68.00	1.12	77.06
69.00	1.08	74.35
70.00	1.03	71.69
71.00	0.98	69.10
72.00	0.93	66.57
73.00	0.89	64.12
74.00	0.84	61.74
75.00	0.79	59.43
76.00	0.75	57.20
77.00	0.70	55.04
78.00	0.66	52.96
79.00	0.62	50.95
80.00	0.58	49.02
81.00	0.54	47.16
82.00	0.51	45.37
83.00	0.47	43.66

Dist From RowLeft (ft)	Electric Field (kV/m)	Magnetic Field (mG)
84.00	0.44	42.01