

POWERDRAW

Digital Simulator for Power Systems

User's Manual

Volume-I

**Introduction to POWERDRAW GUI
Drawing of Single Line Diagram
Generation of Corresponding Data Files**

A POWERGRID Sponsored Project

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Chapter 1

Digital Simulation of Power Systems

1.1 Introduction

This manual is to introduce the users to the power system simulation package, 'POWERDRAW' with all its power system related graphical and analytical capabilities. POWERDRAW is a comprehensive, versatile and easy-to-use software package for different types of power system studies. The entire package is operated through a Graphical User Interface(GUI). It has been developed for its use in UNIX based platforms with X-WINDOW and MOTIF library facilities.

In its present form it has the following capabilities:

Operation via Windows, User Interface

Totally graphical network circuit assembly

Automatic generation of user-defined bus-station diagram

Direct data entry from the one-line diagram

Interactive read/write access to any system parameters

User control of display and reports**Totally graphical power system simulation engines**

The entire overview of the POWERDRAW GUI is shown in Fig. 1.1

Each of these facilities will be described in detail later.

1.1.1 Communication with the Software

All communications with the software is through the graphical user interface (GUI). All commands either for developing the single line diagram or for carrying out any of the large number of system studies are to be communicated to the software through appropriate ‘Dialog Boxes’. For this purpose a large number of necessary ‘Child Windows’ suitable for communicating with the software have been incorporated. Chapter-2 describes the ‘POWERDRAW’ graphical user interface with all the Menus, Sub-menus, Tools and other facilities available for communicating with the package.

1.1.2 Single Line Diagram of a Power System

One of the important features of the package is the drawing and development of a single line diagram of interconnected power systems. The network diagram may be drawn in a compact form. Alternatively, all the transmission lines and substations may be geographically disposed spatially. The drawing area can be expanded upto 32 window size X 32 window size. All these features are described in Chapter-3. That chapter also describes all the user-friendly facilities created to help the operator during running process. Predefined colour schemes for different voltage levels and specially created icons for different system components are also explained in this chapter.

1.1.3 Generation of System Data Files

During the drawing process of the single line diagram, or even after completing the drawing process, there are facilities for generating the necessary data

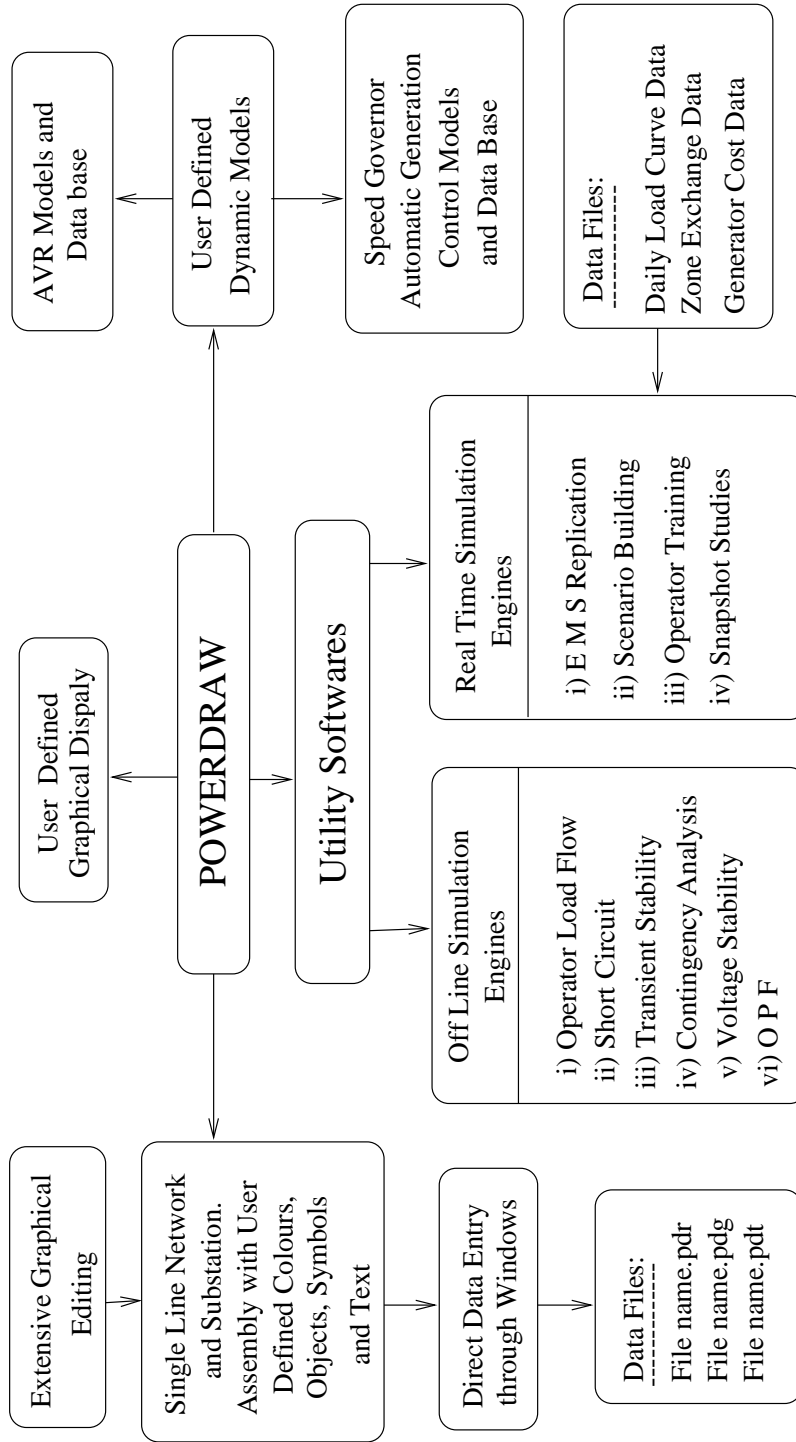


Figure 1.1: The POWERDRAW OVERVIEW

files for carrying out most of the studies. While data are provided through appropriate dialog boxes the program generates three different data files as below:

<**filename.pdr**> ... File for the network drawing

<**filename.pdt**> ... File for the network data

<**filename.pdg**> ... File for generator data

where

filename is a user-defined file describing the system.

The structure of these files will be described in detail in Chapter-4. For inputting data a large number of appropriate Dialog Boxes have been designed specially for easy understanding of the user. The data structure as stored in each of the files are also included. Detailed instructions about the way data are to be inputted are also described in that Chapter.

1.2 Utility Softwares

Along with the facilities for drawing single line diagram and data file preparation this network analysis package offers a generalized and versatile program for a large variety of power system simulation studies. These studies are categorized into two groups:

Off-line Simulation Engines

Real Time Simulation Engines

1.2.1 Off-line simulation

The following is the list of off-line studies that can be carried out:

- * **Operator Load Flow**
- * **Short Circuit Studies**
- * **Transient Stability studies**
- * **Voltage Stability Analysis**
- * **Economic Load Despatch**
- * **Optimal Power Flow**

1.2.2 Real time simulation

Real Time simulation can be carried out through either of the two alternatives:

- * **Load Flow Analysis**
- * **State Estimation**

For the purpose of using the Real Time Simulation engine through the State Estimation program it is necessary to connect the POWERDRAW GUI to an appropriate Data Acquisition System which will have to transmit the required data to the engine in the correct format and sequence.

1.3 Off-Line Simulation Engines

Different off-line studies are described in detail in different chapters. In this section only brief overview will be presented.

1.3.1 Operator Load Flow Studies

In Chapter-5 the facilities for carrying out load flow studies, be it off-line or on-line, is described. Load flow analyses can be carried out under the following three study modes:

- * Static Load Flow Analysis**
- * System Expansion Study**
- * Snap-shot on Real Time Operation**

In each mode a large number of changes, either in the topology of the network or in its parameters or in its operating states, can be incorporated and load flow can be repeated. The list of the changes is:

- a. Change in Load**
- b. Change in Generation**
- c. Change in Shunt Load**
- d. Change in Feeder Data**
- e. Change in Phase Shifter Data**
- f. Change in Control Bus Data**
- g. Tripping of a Generator**
- h. Putting in a Generator**
- i. Switching out a Feeder**
- j. Switching in a Feeder**

1.3.2 Short Circuit Studies

Short Circuit Analyses of electrical power systems network is an important requirement for both planning and operational purposes. The following types of faults can be applied as per the operator's requirement.

Type of fault	identifying number
*****	*****
SINGLE LINE TO GROUND FAULT	1
LINE TO LINE FAULT	2
THREE PHASE FAULT	3
DOUBLE LINE TO GROUND FAULT	4
ONE OPEN-CONDUCTOR FAULT	5
TWO OPEN-CONDUCTOR FAULT	6

After the solution, all the three different phase-voltages and phase-currents are displayed in the display windows as explained later. The details are described in a separate chapter.

1.3.3 Transient Stability Studies

Transient Stability Analyses fall under the category of large disturbance studies which are required for both system planning purposes as well as for creating system operation strategies. Following a large disturbance the rotor angles, rotor speeds and accelerations of all the generating units get disturbed. Depending on the location of electrical distances, different units are affected to different extent.

Since the entire solution of all the different components of the system cannot be achieved in real time, this is essentially an off-line study.

Descriptions about supplying data for, and running procedure of the transient stability program is presented in this chapter.

There are option to plot the transient variation of the following quantities in graphical form for the duration of the solution:

- * **Rotor angles of selected generators**
- * **Power output of selected generators**
- * **Voltage magnitude at selected busbars**
- * **Frequency variation at selected generator busbars**
- * **Impedance seen by a distance relay of selected line**

In each plot it is possible to include as many monitoring points as desired.

1.4 Real Time Simulation of Power System

Real time simulation of power system is an important constituent of the Digital Simulation of power system. Apart from replicating the EMS environment, the real time simulation engine provides extensive facilities for the training of power system operators.

Two major needs for which training can be very effective are:

Training for Operation During Normal Condition

Training for Operation During Severe Disturbances

The real time simulation of a power system under normal condition will generally follow a predicted load curve. A real time dynamic simulator will be the most effective mechanism to train control engineers in the handling of severe disturbances.

A real time dynamic simulator will be the most effective mechanism to train control engineers in the handling of severe disturbances to increase confidence, to improve knowledge of the technical characteristics of the system and to train for procedures for handling emergency situations.

This chapter describes in detail all the aspects of real time simulation of a power network. It highlights how and what data are to be supplied to the simulation program, how to run the program and how to interrupt the real time simulation to carry out snap-shot studies. It also describe the various aspects of operator training process such as the preparation of training scenarios, interpretation of results and how the trainee can take certain supervisory actions in an attempt to bring the system to healthy condition after some disturbances.

1.5 OrganiZation of the Manual

The **Operators' Manual** is divided into three valumes.

VOLUME ONE contains:

- * **Introduction to POWERDRAW GUI**
- * **Drawing of Single Line Diagram of Power Systems**
- * **Generation of Data Files**

VOLUME TWO contains:

- * **Off-Line Studes of Power System Operation**

VOLUME THREE contains

- * **Real-Time Simulation of Power System**

1.6 Intended Audience

This manual is intended as a guide for using the 'POWERDRAW' software package. Any person familiar with an electrical power network should be able to use the manual for going through various stages of the software pack-age and use it for his own purpose purely mechanically. But for a better

understanding of various functions and their inter-relationships among one another, it is assumed that the user will be familiar with the functioning of an integrated power system and different types of associated problems it is likely to face under normal and abnormal operating states. Some analytical background relating to power system modeling and simulation would be of advantage.

Some knowledge of UNIX operating system and its file structure is also a basic requirement.

The associated publication ‘Technical Manual’ provides the details of mathematical relationship involved in modeling and simulation of different components and systems as used in this package. Inter-relationship of the various processes are also available in that manual.

Those who would be involved in modifying and upgrading the package, would be expected have a thorough understanding of the Technical Manual. They should also be able to understand the source codes written in FORTRAN-77 and C language. The graphical aspects of the package has been developed using X-WINDOW and MOTIF library functions.

The POWERDRAW will be useful to:

Power system managers

Power system operators

Teachers

Researchers

Advanced students

1.7 Team of Personnel

The following personnel in the

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were involved in the development of the package:

A. Faculty:

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- 2. Professor A K Sinha**

B. Research Scholars:

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- 2 Dr. Jayanta Kumar Mandal**
- 3 Dr. Anutosh Maitra**
- 4 Mr. Durlav Hazarika**

C. Graduate Students:

- 1 Mr. C S S Ravi**
- 2 Mr. S Misra**
- 3 Mr. Amit Kumar Sil**
- 4 Mr. Ashok Reddy**
- 5 Mr. Chinna Narayan**
- 6 Mr. Pavan Kumar**

7 Mr. Rajnish Chauhan

8 Mr. A K Kishore

D. Undergraduate Students:

1 Shital Meheta

2 Kaushick Niyogi

Chapter 2

Introduction to “POWERDRAW” Graphical User Interface

2.1 Introduction

This Chapter is to introduce the users to the Graphical User Interface (GUI) part of the POWERDRAW window. This window has been specially designed for operating different types of power system related simulation engines.

All communications with the package are through Menus and Dialog boxes. The entire package is operated through the Graphical User Interface.

It has been developed for its use in UNIX based platforms with X-WINDOW and MOTIF library facilities. In this Chapter the graphical part of the software is described in detail.

2.2 The Graphical User Interface (GUI)

For the purpose of understanding the various functions of the GUI it will be convenient if you have the entire POWERDRAW window in front you. Once the software is successfully installed in your computer, the first command you use to get the Window in front of you is:

powerdraw

Immediately the POWERDRAW main window appears on the screen. This window possesses most of the facilities of a standard X-WINDOW in addition to some other features which are specially tailor-made for their use with power system related problems. Fig. 2.1 shows a copy of the window with all the features labeled.

It contains the following:

1 The Border

2 The Title Bar

3 The Main Menu Bar

4 Information Bar

5 Text Window

6 Action Bar

7 Status Bar

8 Scroll Bars

9 Drawing Pad

2.2.1 The Border

The border can be used in association with the mouse and the keyboard to manipulate the window in a variety of ways:

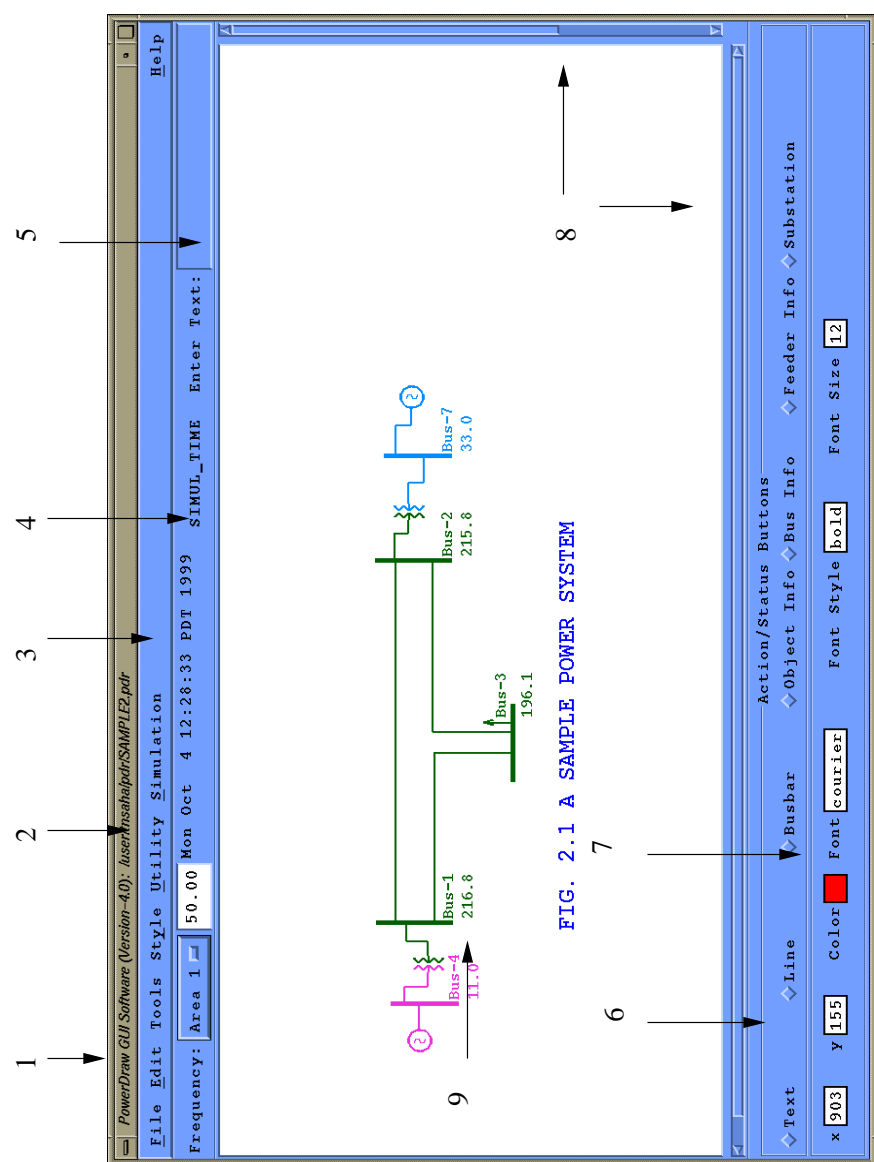


Figure 2.1: The POWERDRAW Main Window

To get Window Menu: Place the cursor on the border; then press the right mouse button to open the standard X-Window menu.

For resizing a Window : Place the cursor on the border and press the left mouse button. When you see a resize cursor, drag the mouse to resize the window.

For moving the Window : place the cursor on the border; then press the middle mouse button and drag to move the window to a desired position.

For raising the Window : Place the cursor on the border; then press the left mouse button to raise the window.

For lowering the Window : Place the cursor on the border; then press the <Ctrl> key and left mouse button simultaneously to lower the window.

2.2.2 The Title Bar

The Title Bar contains the Standard X-Window menu, the maximize and the minimize buttons. It also allows you to move, raise, and lower windows. It also contains information about the file that is currently being worked on in the drawing pad. If no specific file has been opened, it gives the title ‘Unnamed.pdr’ as a default file name.

For Moving a Window: Place the cursor in the title bar; then press the left mouse button and drag to move the window.

For Raising a Window: Place the cursor in the title bar; then click the left mouse button to raise the window to the top of the stack of windows.

For Lowering a Window: Place the cursor in the title bar; then press the <Ctrl> key and left mouse button simultaneously to lower the window to the bottom of the stack of windows.

2.2.2.1 The Window Menu Button

The Window menu button at the top left corner of the window lets you access the Window menu and provides a shortcut for closing windows.

Place the cursor over the button and press the left mouse button to see the Window menu. Double-click the button with the left mouse button to close the window.

The Minimize Button You click the Minimize button at the top right hand corner of the window with the left mouse button to turn the window into a small, square icon. This doesn't close the window or stop the process that was going on in the window. It turns it into an icon that takes less screen space.

The Maximize Button You click the Maximize button also at the top right hand corner of the window with the left mouse button to make the window as large as it can be. Some windows become as large as the screen; others change only slightly. If a window doesn't change or becomes smaller when you click the Maximize button, the window was already at its largest size. To restore a maximized window to its original size, click the Maximize button again.

2.2.3 The Main Menu Bar

The Main Menu bar contains the following functional utilities:

File

Edit

Tools

Style

Utility

Simulation

Help

For using any of these functions place the cursor on any of them and press the left mouse button.

2.2.4 File Menu

The File Menu is essentially for handling files under different situations as explained below. button. Place the cursor on ‘File’ and press the left hand mouse A pop-up menu with the following options appears on the screen:

```
Open
New
Close
Save
Save As..
Print
Exit      >F3
```

2.2.4.1 Open

This option is to be used for getting the FileSelectionBox .

FileSelectionBox traverses through directories, views the files and subdirectories in them and then selects files. A FileSelectionBox has five main areas:

- * A text input field for displaying and editing a directory mask used to select the files to be displayed
- * A scrollable list of filenames

- * A scrollable list of subdirectories
- * A text input field for displaying and editing a filename
- * A group of PushButtons, labeled OK, Filter, Cancel and Help

Steps for getting the FileSelectionBox are:

Place the cursor on 'Open' and press the left mouse button. A File Selection Box appears with the list of directories along with a list of files in the current directory that can be opened on the 'Drawing Pad'. These are shown in Fig. 2.2. Select the correct directory by placing the cursor on the particular directory in the File Selection Box and press the left mouse button. This will display all the files in that directory that can be opened in the drawing area. Select the proper file again by clicking the file with the left mouse button and then pressing the 'OK' button. The content of the file will now be displayed on the drawing area.

IMPORTANT:: In the drawing pad you can open only those files that end by '.pdr'.

Functions of PushButtons

There are four PushButtons at the bottom of the FileSelectionBox. The function of these buttons are:

OK When you press this button, the selected file is opened and the content of the file is displayed in the drawing pad.

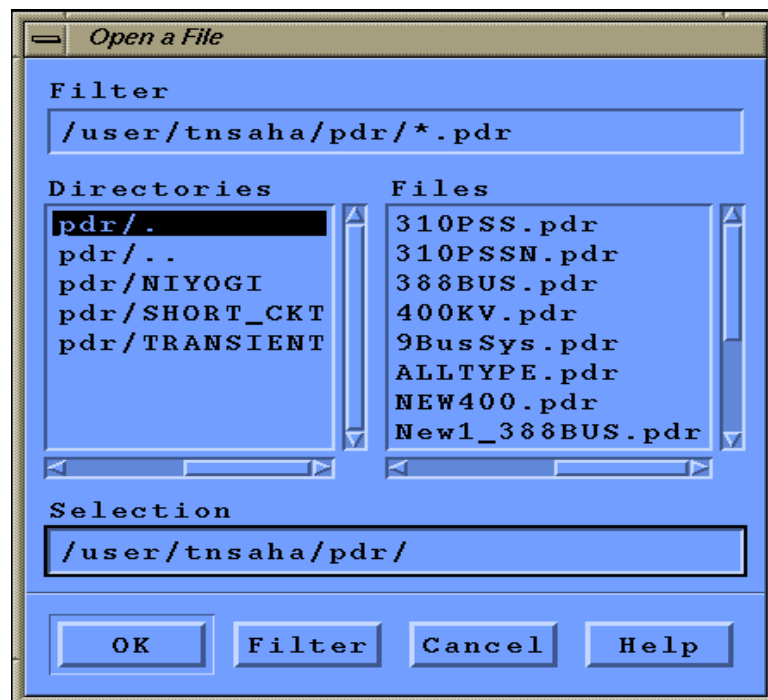


Figure 2.2: The ‘Open’ menu & File Selection Box



Figure 2.3: The ‘New’ menu & New File Prompt Dialog

Filter When the File Selection Box is opened it contains all the in the particular directory at the time of opening the Box. If, during the current session any new file has been created, it will not be added in the directory mask automatically. You have to press the Filter button to add the new file in the appropriate directory mask.

Cancel Cancel button only cancel the last command inputted in the FileSelectionBox.

Help Pressing the Help button bring the help message relating to this particular activity.

2.2.4.2 New

This option is to be used for opening a new file. The steps are:

Place the cursor on ‘New’ and press the left mouse button. A different Dialogue Box appears for inputting the name of the file to be created for saving the content of the Drawing Pad. After typing the filename press the ‘OK’ button. If the filename is not the proper one, you can ‘Cancel’ it by pressing the button. If the name of the file is not entered initially, it can be entered at a later stage by using the ‘Save As..’ option. Refer to Fig. 3.1 for details.

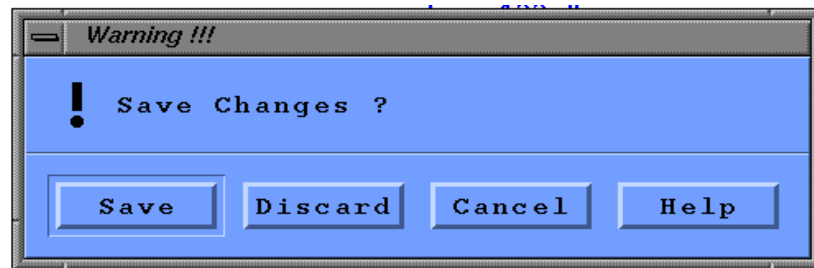


Figure 2.4: The ‘New’ menu & Close File Prompt Dialog

2.2.4.3 Close

Close: This option is to be used for closing a file that has been opened on the drawing area. If no modification has been done to the file that has been opened on the drawing area, the ‘Close’ option simply closes the file. In case some changes have been done and the close option is used, a new dialog box will appear asking to respond whether the content should be saved before closing as shown in Fig. 2.4. In this dialog box you have the options to ‘Save’ the changes done on the files through the drawing pad. The changes can be discarded by pressing the ‘Discard’ button and thus save only the original contents. The ‘Cancel’ button remove this dialog box from the screen.

2.2.4.4 Save and Save As

Save: This option is to be used while saving a file that is open in the drawing area and modifications have been done to it. For example, during the process of drawing a single line diagram a partially drawn diagram can be saved into the file already specified for it by placing the cursor on the Save option and pressing the left mouse button. If you try to ‘Save’ the content of the Powerdraw window without specifying in advance a file name using the ‘New’ option, a dialog box will appear asking for specifying a file name.



Figure 2.5: The ‘Save As’ Dialog Box

Save As.. : For saving the content of the drawing area this option is to be used when no file name has been specified earlier. When this option is clicked with the left mouse button a dialog box appears for providing the name of the file in which the content of the drawing area is to be saved as shown in Fig. 2.5.

2.2.4.5 Print:

Print: This option is to be used for printing the content of the Powerdraw window. When this command is invoked , a postscript file of the content is generated and it is sent to the default printer attached to the computer.

2.2.4.6 Exit:

Exit: This prompt is to be used carefully. When invoked, this option will exit from the Powerdraw process and remove the Powerdraw window from the screen. However, if some modifications have been done to the content of the window, a dialog box similar to the one in the case of option ‘Close’ will appear for saving/discarding the content of the window. You have to be careful in giving the command in this dialog box.

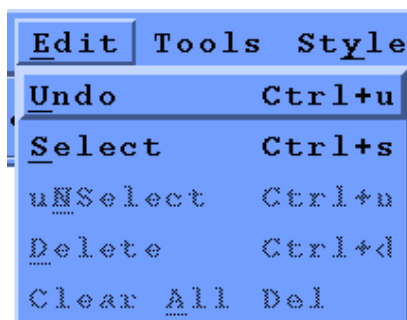


Figure 2.6: The ‘Edit’ menu & Its Menu Buttons

2.2.5 Edit Menu

The Edit Menu has the following options for editing the contents of the Drawing Pad as shown in Fig. 2.6.:

Undo **Ctrl+u**

Select **Ctrl+s**

Unselect .. **Ctrl+u**

Delete **Ctrl+d**

Clear All . **Del**

These options can be used from the Menu pad or alternatively from the key board. For example, for deleting something on the drawing area that has been selected press the <Ctrl> button and ‘d’ simultaneously.

Undo: This option is to be used for nullifying the action of the last command. For example, if something has been deleted from the drawing area, then the deleted portion will be put back to original position if you place the cursor on this option and press the left mouse button.

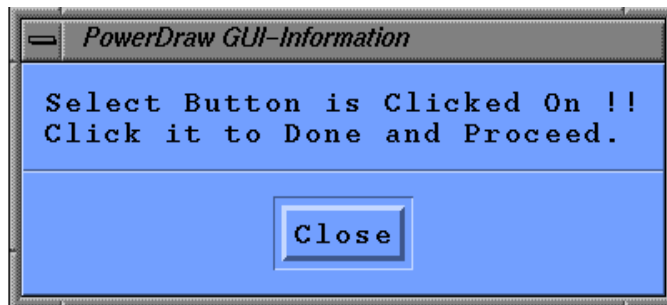


Figure 2.7: Incomplete Select Function

Select This option is to be used before deleting an object in the drawing area. If you want to delete and or more objects such as a line segment, a busbar drawn in the drawing pad or even an object that has been dropped in the drawing pad, you have, first of all, select them. To 'Select' anything in the drawing area take the cursor to the 'Edit' menu and from there press the 'Select' option. Then take the cursor to whatever you want to delete and press the left mouse button. You can select as many of these components or objects as you like. After the selection process is over, take the cursor again to the 'Edit' menu and this time press any of the other options such as 'Unselect', 'Delete' etc. Once 'Select' option has been invoked, it must be followed by any one of those two actions. Otherwise no other activity can be carried out. If you try to do some other activity, you will be prevented from doing so with a prompt as shown Fig. 2.7.

For carrying out any other activity you have to click the 'Done' option which has replaced the 'Select' option.

Unselect: When certain objects have been 'selected' for deleting from the drawing area, pressing the 'Unselect' option with the left mouse button nullify the selection process.

Delete: For the purpose of removing certain portion of the content of the Powerdraw window, whether it is a part of the drawing or some text written in the window, this option is to be used. Whatever is to be removed, has to be ‘selected’ first as explained above.

Clear All: This prompt, when activated, removes everything from the Powerdraw window. This prompt is to be used carefully. Be sure not to use the ‘Save’ option of the File Menu after using this option. In that case the entire content of the file that was opened in the Powerdraw window will be wiped out.

2.2.6 Tools Menu

The Tools Menu contains options that enhance the drawing capabilities of the package. The following tools are included. The details are shown in Fig. 2.8.

Search	>
Flip	
Rotate	
Magnify	>
Unmagnify	

Search: If you press the ‘Search’ button with a single line diagram of an electrical power network in the Drawing Pad, a Dialog Box appears on the screen for searching the Busbars in the diagram. The ‘search’ can be in terms of Busbar name or Busbar code number. After you have selected a Busbar Name or a code, the single line diagram will be appropriately shifted so as to bring that particular busbar in the centre of the Drawing Pad. The ‘Search’ dialog box is shown in Fig. 2.9.

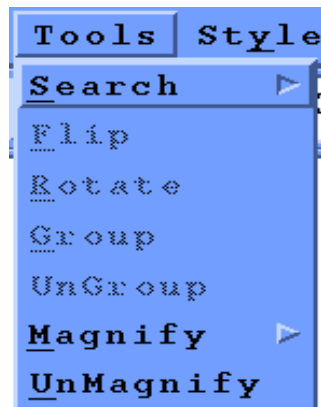


Figure 2.8: The Tools SubMenu.

To select a busbar look for the busbar name or the code number by using the scroll bar in the Search window. Then place the cursor on the name or code number and press the left mouse button.

The next two options are to be used only after ‘selecting’ an ‘object’ in the Powerdraw window. These objects are available through the Utility Menu as will explained later.

Flip: This option is to be used for rotating an object icon by 180 degrees. First ‘select’ an object. After ‘selecting’ an object place the cursor on the ‘Flip’ option and press the left mouse button. The object, whether it is a transformer, a generator symbol or an SVS, will be rotated by 180 degrees.

Rotate: By utilizing this option in the same way as explained above you can rotate an object icon by 90 degrees.

Magnify: By using the ‘Magnify’ option you can increase the drawing area successively to as large as 32X32 times the initial size. When you place the cursor on the ‘Magnify’ option and press the left mouse button you

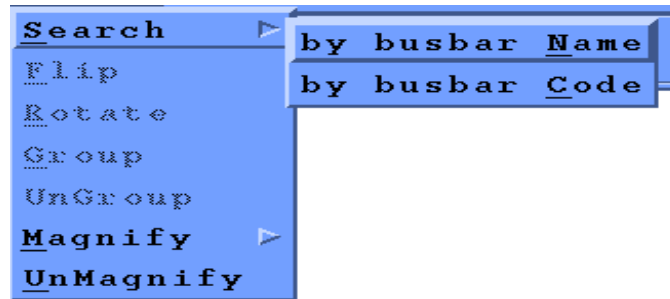


Figure 2.9: The Search SubMenu.

prompted with options by how much you want to increase the size of the drawing area.

Unmagnify: By using this option you get just the opposite effect of ‘Magnify’, i.e. the window size gets reduced to its original value.

2.2.7 Style Menu

This special Menu has been particularly designed for this GUI. When you take the cursor to this menu and press the left mouse button, the following options become available:

- Line Thickness
- Line Style
- Busbar Thickness
- Busbar Style
- Text

2.2.7.1 Text SubMenu

When you place the cursor on the Text Menu and press the left mouse button, the following three sub-menus become available:

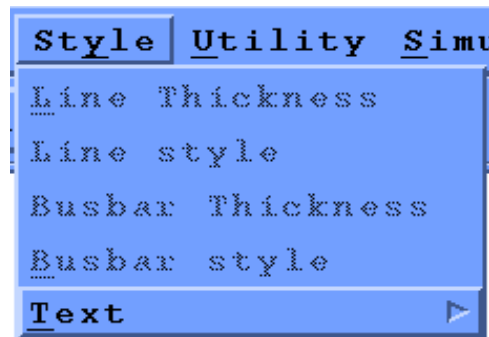


Figure 2.10: The Style SubMenu

Text Font
Text Size
Text Style

Text Font:

Following fonts are available:

Fixed
Helvetica
New Century
Courier
Times
Utopia
Lucida
Symbol
Clean

Text Style:

Following text styles are available:

Medium

Bold
Normal
DemiBold
Clean

Text Size:

Following text sizes are available:

10 points
12 points
14 points
18 points
24 points
30 points

All these sub-Menus provide a large range of options as shown in Fig. 2.10. For selecting any one of them you place the cursor on the corresponding option and press the left mouse button.

2.2.8 Utility Menu

This is a specially designed facility for drawing single line diagram. If you take the cursor to this menu and press the left mouse button the following options become available:

Colours

Objects

Status Ch.

Display

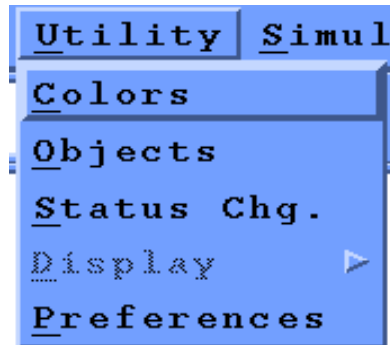


Figure 2.11: The Utility SubMenu

Preferences

The Utility SubMenu is shown in Fig. 2.11

Colours: Take the cursor to the ‘Colours’ and press the left mouse button.

A specially designed Colour Pad with twelve pre-designed colour boxes appears on the Window. For the purpose of drawing the single line diagram different colours are used for different voltage levels. Some of the specified colours are:

Red	.....	400 KV
Green	.....	220 KV
Blue	.....	132 KV
Pink	.....	11 KV
Light Green	..	500 KV

Similarly, if you press the mouse button on the ‘Object’ sub-menu a small object pad with a set of object icons appears on the Window. This is shown in Fig. 2.11. The use of these Colours and Objects will be explained later. The colour palette and the object pad is shown in Fig. 2.12.

Objects: Following Objects are available in icon form:

- Generators
- Motors
- Three winding transformers
- Two winding transformers
- Static VAR compensators
- Circuit Breakers
- HVDC converters/inverters

Hotspot All the objects have either one or two hotspots. Lines can be connected to the objects only at these hotspots.

If you press the left mouse button on the ‘Object’ sub-menu a small object pad with these object-icons appears on the Window. This window can be moved anywhere in the screen.

The colour palette and the object pad are shown in Fig. 2.12.

Status Change When the single line diagram is drawn the status of all the components of the network are set ‘ON’ or ‘OFF’ by default. You can change the status of any of the components, whether it is a transformer, a feeder, a generator or a static VAR system by using the ‘Status Change’ option. Detailed description about the way this is to be done is described in the Chapter dealing with the drawing of single line diagram.

Display: If any single line diagram is opened in the Drawing Pad and then you take the cursor to the Display sub-menu and press the left mouse button, it produces a small window with the options of:

- Bus Code On/Off
- 400 KV
- 220 KV
- 132 KV
- LOW VOLTAGE

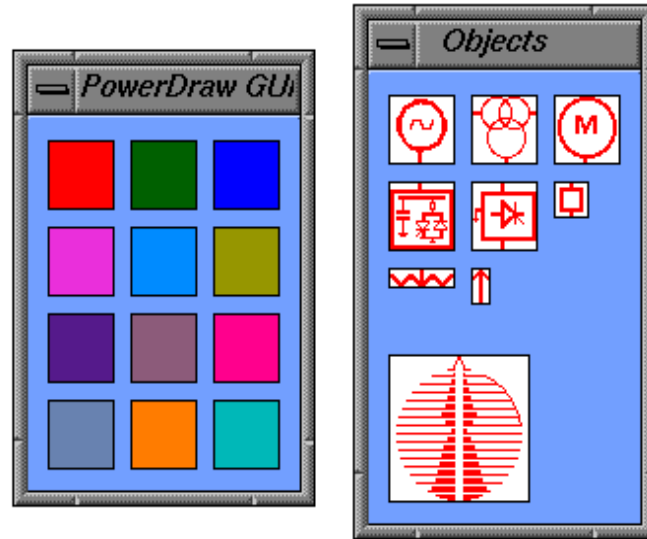


Figure 2.12: The Objects & Colour Pad

This option is not highlighted if the drawing area is empty.

The 'Bus Code On/Off' is a toggle switch. If you press it once with the left mouse button it will show the busbar code numbers on the single line diagram. If you press it again the numbers will be removed.

If you press 400 KV with the help of the left mouse button, the portion of the single line diagram on the Drawing Pad working at 400 KV voltage level will be redrawn in a new window and displayed. The details are shown in Fig. 2.13.

For example, with the sample power system shown in Fig. 2.11 if the left mouse button is pressed for 220KV display, the part of the system that will be shown in a new window is shown in Fig. 2.14.

If no single line diagram is open in the window, the 'Display' option is not highlighted.

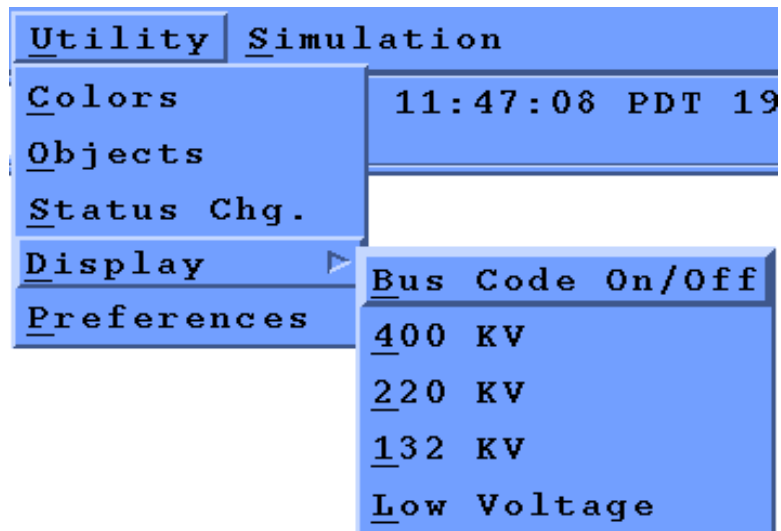


Figure 2.13: The Display SubMenu

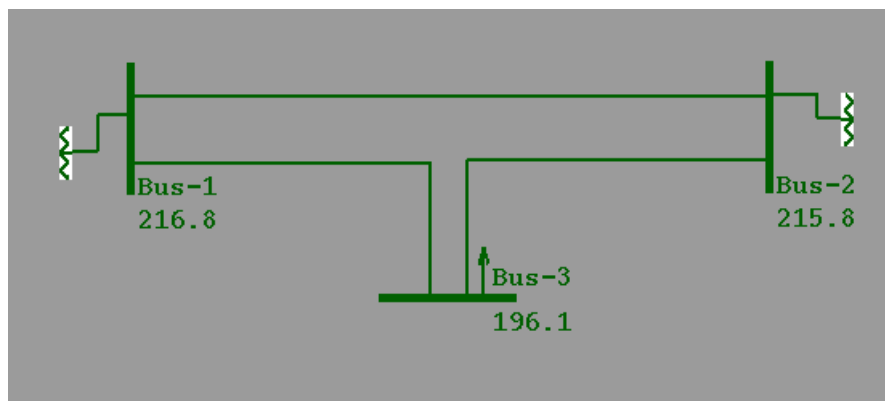


Figure 2.14: Display of 220KV Part of System

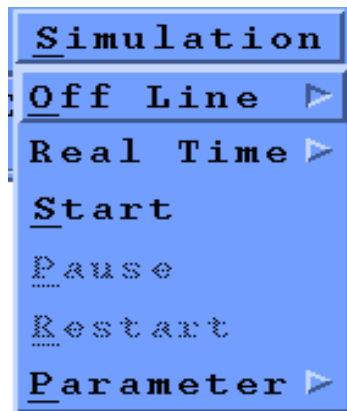


Figure 2.15: The Simulation SubMenu

2.2.9 Simulation Menu

This menu is essentially for running the software packages. To use these options you must have a single line diagram opened in the Drawing Pad and all the necessary data files should also be available in the directory in which you are working currently. Otherwise this Menu remains inactive. With a file opened if you take the cursor to it and press the left mouse button you get a pop-up menu with the following options as shown in Fig. 2.15

Off Line

Real Time

Start/Stop

Pause

Restart

Parameters

Real time: Real time simulation has two sub-options:

Load Flow Analysis
State Estimation

How and when to use these options will be explained in the chapter dealing with ‘Real Time Simulation of Power Systems’.

Off Line: This function has the following sub-options:

Operator Load Flow

Short Circuit Studies

Transient Stability Study

Voltage Stability

Economic Load Despatch

Optimal Power Flow

The details of these options are shown in Fig. 2.15. The utilization of these options will be explained in detail in the Chapter describing Off-Line Studies .

2.2.9.1 Help Menu

The Help Menu displays the entire Operators’ Manual when required. Take the cursor to the word ‘Help’ and press the left mouse button. In a separate window the operators’ guide will be displayed.

2.3 The Information Menu

The Information Bar contains the following:

Frequency

Date and Time**Simulation Time****Text Window**

Frequency In this window the power system operational frequency will be displayed by updating the values every two seconds during the real time simulation of power system. Other times it is of no use.

Date and Time The actual Indian Standard Time is shown in this space updating every second.

Simulation Time This time corresponds to the time for which the real time simulation of the power system is being carried out. For example, at 10.00 am in the morning simulation of the system on the Drawing Pad may be started to correspond to the operating state of the system at 3.00 pm in the afternoon. So, the simulation time of 3.00 pm will be synchronized with the real time of the day at 10.00 am.

2.3.1 Text Window

The Text Window is to be used for writing any text in the drawing area. The text to be written in the Drawing Pad is to be first written in the Text Window. Then the proper font, style and size is to be selected from the Style Menu. Next place the cursor on the 'Text' radio button and press the left mouse button. The status of the button will change. Then take the cursor to the place where the text is to be written and press the left mouse button. The text will be written on the drawing area. If the location is not the one you would like it to be, you can delete the text by 'selecting' and using the Delete option of the Edit Menu as explained before. Then take the cursor to the new place where the text is to be written and click the left mouse button again. The colour with which the text is to be written can also be selected from the colour pad.

2.3.2 Action/Status Buttons

These buttons are to be used for the purpose of drawing the single line diagram in the drawing area

2.3.2.1 Action Buttons

There are seven ‘Action’ radio buttons :

Text
Line
Busbar
Object Info
Bus Info
Feeder Info
Substation

These buttons are to be activated before utilizing the Drawing Pad. For activating any of the radio buttons place the cursor on the button and press the left mouse button. The functions of the radio buttons are explained below. The appropriate button is to be pressed:

Text Before inputting text written in the text window within the drawing area

Line Before drawing lines in the drawing area

Busbar Before drawing busbar in the drawing area

Object Info Before supplying data and display of output for the generating plants

Bus Info Before supplying data and display of output for busbars

Feeder Info Before supplying transmission lines and transformer data and display of output

Substation Before displaying Substation diagram

The function of these radio buttons will be explained in detail in the next Chapter describing the process of drawing single line diagram and supplying data for a electrical network.

2.3.2.2 Status Windows

The small ‘Status’ windows display the status of certain activities being carried out in the drawing area. For example, ‘x’ and ‘y’ indicate the cursor position in drawing area. ‘Colour’ button indicates the current colour for drawing lines or busbars or objects depending on which status button has been activated. The ‘Font’, ‘Font Style’ and ‘Font Size’ relate to the status of the content of the text window and will be used during inputting them in the drawing area.

2.4 Shortcut Buttons

Apart from all the Menus, Options and Buttons described above, one user-friendly, frequently-used Shortcut buttons have also been provided for ready access. To get these buttons take the cursor anywhere in the drawing area and press the right hand mouse button and instantly the set of buttons appears on the drawing area. You can select any one of them by dragging the cursor to that particular option. This is shown in Fig. 2.16. The following actions are available in the Shortcut Button:

Undo

Select

Unselect

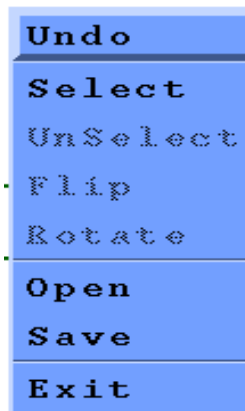


Figure 2.16: The Simulation SubMenu

Flip

Rotate

Open

Save

Exit

The options in this pop-up menu are self-explanatory.

2.5 Conclusion

In this chapter an attempt has been made to describe the visual content of the Graphical User Interface(GUI) of the the Power System Digital Simulation Package. For proper understanding of the facilities available in the GUI it is advisable to sit in front of the terminal and visualize it as you read the manual.

Chapter 3

Drawing of Single Line Diagram of Power Systems

3.1 Introduction

This Chapter is intended to introduce the user to the extensive facilities for drawing single line diagrams of electrical power network available in the Drawing Pad of the POWERDRAW GUI. In a power system the single line diagram consists of busbars, lines, generators and transformers. There are other components like HVDC systems, shunt reactors and capacitors, SVS systems etc. Some of these components are readily available in the form of icons in the Object Pad as explained in the last Chapter. Others can be simply drawn on the Pad.

The drawing of a single line diagram and the generation of the necessary data files are integral parts of the entire process. For the sake of convenience the method of generating the necessary data files have been dealt with in the next chapter. It is advisable to study both this and the next Chapter before starting the drawing process.

For better understanding of the activities described in this Chapter it is advisable to sit in front of a terminal and bring the POWERDRAW GUI on the screen try out the processes as you read them.

3.1.1 Planning for the Drawing

Before starting the drawing process, it is necessary make a plan for exercise. For this purpose it is necessary to keep in mind the following points.

3.1.1.1 Zonal segregation of the layout

Normally a large interconnected power system consists of several utilities involved in the operation and control of the entire system. Generating stations and substations within the jurisdiction of each utility, therefore, are to be distinctly identified so that power and energy flows among the various utilities can be properly computed and easily visualized. From this point view it is appropriate to divide the entire power system into separate zones corresponding to the respective utilities.

3.1.1.2 Geographical Layout of the drawing

While drawing a single line diagram of an electrical power network, it is preferable to locate the substations and route the transmission and distribution lines in the way theses are geographically dispersed . This helps the operator in understanding the system better. For this purpose it is worthwhile to make a sketch of the network if one is not already available.

Busbars at different voltage levels are drawn with different colours as explained later. The GUI uses a FOUR DIGIT busbar code as the PRIMARY KEY for data base management. It is therefore essential that a correct and consistent method of busbar code formation is adopted. This is explained in the next chapter. The colour codes for different voltage levels are explained later.

3.1.1.3 Capabilities of the GUI

The present GUI has the following capability:

Maximum number of zones	9
Maximum number of voltage level identifier ..	9
Max.number of busbars at a voltage level in any one zone	99

The implication of this is that with the present restrictions the theoretically maximum number of busbars that can be drawn is 9999. In any one zone the maximum number of busbars in any one voltage level is 99. Even with these limitations it is possible to draw a fairly large size power system network. It is therefore necessary to plan the drawing process before one gets stuck up in the middle of the task.

The other important point to keep in mind is that the initial disposition of the Drawing Pad is such that the coordinate system starts from the top left hand corner. This means that Drawing Pad cannot be shifted to the left and above the initial position. As a result if the drawing is started from left hand corner, it will not be possible to add anything beyond the coordinate system. It is therefore advisable to start the drawing process by leaving some space to the left and top of the drawing area. This will help incorporating any future additions in the west and northern parts of the network.

3.2 Getting Started

To start the drawing process type the command

powerdraw

The POWERDRAW Graphic Window appears on the screen with all the details as explained in the last Chapter. Though it is not essential but it is preferable to start the drawing process by opening a new file to save the drawing. To do so, go to the 'File' Menu and press the left mouse button on the item 'New'. A dialog box appears for providing the name of the new file. After entering the name of the file press the 'OK' option with the left mouse button. The new file name is entered at the top of the GUI Window. Until

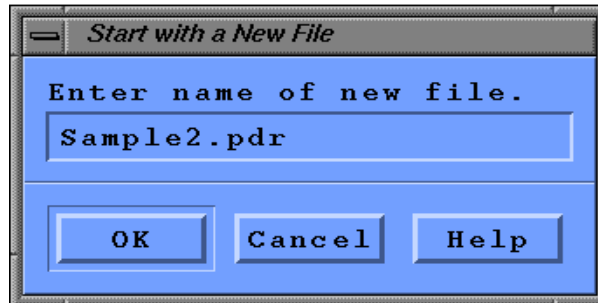


Figure 3.1: Dialog Box For New File

a file name is provided, a filename, Unnamed.pdr is shown in the Title Bar. The dialog box is shown in Fig. 3.1.

There are few simple rules that are to be followed while drawing the diagram. The first of these says that:

LINES SHOULD START FROM A BUSBAR OR AN OBJECT

This means that there should be an object or a busbar on the Pad before drawing a line segment. Many other similar error and warning messages will be appearing on the window when drawing process is not followed properly. The list is given in the Appendix.

To draw a Busbar place the cursor on the radio button 'Busbar' and press the left mouse button. This means that busbars can now be drawn.

One most important point to remember is that:

COMPONENTS SUCH AS LINES, BUSBARS OR OBJECTS OF TWO DISSIMILAR COLOURS CAN NOT BE JOINED TOGETHER. SO, CHANGES OF COLOUR WILL ONLY TAKE PLACE AT THE TWO WINDINGS OF TRANSFORMERS

3.3 Drawing a Busbar

Before drawing a busbar you have to know the voltage level for which you want to draw the busbar. You have also to estimate about how many line/feeders are connected to this busbar to decide about the length of the busbar.

As mentioned earlier if you want to draw a 132 KV busbar, you have to select BLUE colour. For selecting any colour place the cursor on the corresponding colour box in the COLOUR PAD and press the left mouse button. The colour Status Button will show the current colour for drawing Busbar. For drawing a line or a busbar on the Drawing Pad the corresponding action button is to be activated. So, for drawing a busbar place the cursor on the 'Busbar' status button and press the left mouse button. Then take the cursor to the place where you want to draw the busbar. Busbars can be drawn either horizontally or vertically.

If you draw a busbar with an angle less than 45 degree to the horizontal plane, the GUI will automatically make it horizontal. If the angle is more than 45 degree the busbar will be drawn vertically. You can draw as many busbars as you like with the same colour in the Drawing Pad. These busbars can be connected together by transformer or transmission line feeders at a later stage as explained.

3.3.1 Editing a Busbar

Each and every busbar can be shifted from one place to another, increased or decreased in length. A horizontal busbar can be made vertical and a vertical one horizontal in the following manner:

Shifting a Busbar: For shifting the busbar place the cursor on approximately the middle of the busbar. Press the middle mouse button while you drag the busbar anywhere on the Drawing Pad.

Re-orienting a Busbar: For turning the busbar horizontal to vertical or vice-versa place the cursor at the end opposite to the one against which you want to rotate it. Press the middle mouse button as you rotate the the busbar clockwise or anti-clockwise.

Changing size of Busbar: For changing the length place the cursor at one end of the busbar. Press the middle mouse button as you stretch the busbar longer or compress it shorter. There is a minimum length upto which it can be shortened. There is no maximum limit.

Deleting a Busbar: If you want to delete the busbar from the Drawing Pad, place the cursor on the 'Edit' menu and press the 'Select' button. Then take the cursor to the busbar and press the left mouse button. The busbar gets selected . Then go to the Edit Menu and press the 'Delete' option. The selected busbar will be erased.

The colour and hence the voltage level of a busbar, once drawn, can not be changed. In case it has been drawn with a wrong colour, it has to be first deleted as described above and then redrawn with correct colour corresponding to the desired voltage level.

All these facilities are shown in Fig. 3.2. The points where the cursor is to be placed for the three different types of changes are marked by arrows corresponding to 1 2 and 3 respectively.

3.3.2 Busbar Names

When busbars are drawn on the Drawing Pad they are, by default, given names sequentially such as Bus-1, Bus-2 etc. Suppose a busbar with the name Bus-7 is deleted from the drawing pad by editing and again a busbar is drawn. It will be given a name Bus-Y where Y is one more than the last number in the drawing pad.

These names can be changed by any SEVEN DIGIT Alpha-numeric characters and there is no restrictions. This is explained in the next Chapter.

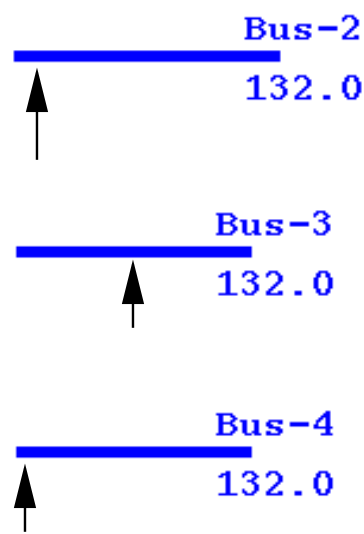


Figure 3.2: Editing a Busbar

3.3.3 Busbar Colour Scheme

The base voltage level(in KV) of a busbar is decided by the colour with which it is drawn since the colour/voltage relation has been hard-coded in the GUI. The following are the relationship between colour of the busbar and the voltage level:

PINK	*****	11 KV
MUSTARD	*****	21 KV
LIGHT BLUE	**	33 KV
BLUE	*****	132 KV
GREEN	*****	220 KV
RED	*****	400 KV

This means that when the user draws a busbar with, for example, Blue colour, the Base KV of that busbar is taken as 132 KV by the GUI.

If you have drawn a busbar with one colour(i.e. for one voltage level) and now you want to draw with another colour, you have to place the cursor on the corresponding colour box in the Colour Pad and press the left mouse button. The colour status indicator will show the selected colour and you can proceed with the drawing process.

3.3.4 Busbar Code Formation

The POWERDRAW GUI uses the Busbar Code as the PRIMARY KEY for all data base management. It is therefore very important to have a **correct and consistent busbar code** formation mechanism. This GUI uses a FOUR DIGIT busbar code for identifying network busbars.

A large network is generally divided into several Zones or Areas . In each zone busbars are grouped according to the voltage level and finally the serial number of the busbars of the same voltage level.

The first digit indicates the zone or area to which it belongs.

The second digit stands for the voltage level of the bus as given above.

The last two digits are the serial numbers for busbars in that zone at that voltage level.

For example, a busbar code of 8431 means that it is a 400 KV bus in the area 8 having a serial number 31.

With this code generation mechanism when a user draws busbars in the drawing pad, the codes are automatically generated. For As an example, if the user draws the first busbar with RED colour, it will automatically be given the code as 1401.If he draws the next busbar with GREEN colour, it will be given a code 1201. If he draws the next busbar again with RED colour, its code will be 1402. If he tries to duplicate the busbar code by editing the last two digits, the GUI will not accept it and an error message will be given. All these are shown in Fig. 3.3.

The user, however, can:

Change the first digit to shift a busbar from one Zone to another.

Change the last two digits without duplicating the serial number.

3.4 Drawing a Generating Plant

A power plant generally consists of more than one generating units. In this GUI a power plant is represented by an alternator symbol irrespective of the number of generators in the power plant. This symbol, along with others, is stored as icons in the object pad. You can drag and drop them anywhere in the drawing pad. All these icons are treated as objects.

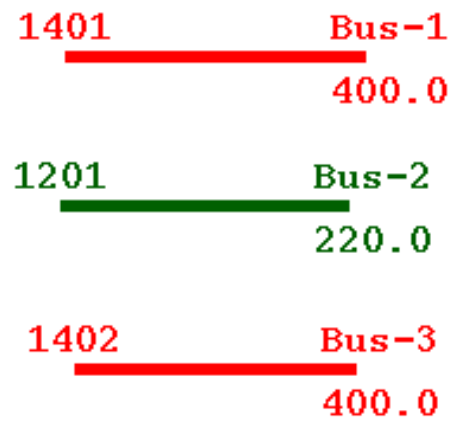


Figure 3.3: Busbar Code Scheme

3.4.1 Bringing an Object

To draw a power station place the cursor on the alternator symbol in the Object Pad. Press the middle mouse button while you drag the object on to the Drawing Pad.

Moving an Object: Once in the Drawing Pad you can move the object any where by dragging the object while you keep the middle mouse button pressed.

Copying an Object : You can make copies of the object also. For this place the cursor on the object. Then drag the object to a new place while you keep both the 'control key' and the middle mouse button pressed simultaneously.

3.4.2 Editing an Object

You can change the orientation of the object by using the 'Flip' and 'Rotate' options as explained in Chapter One.

To flip an object: You can flip an object in order to place it in any direction you want. For doing so first of all 'select' the object. Then press the 'Tools' Menu' and then activate the 'Flip' option to rotate the object by 180 degrees.

To rotate an object: To rotate an object by 90 degrees repeat the procedure as mentioned above except that that you activate the 'Rotate' option. The effect of these two actions is shown in Fig. 3.4

Changing the colour of an object: When you bring an object into the Drawing Pad its default colour is BLUE. In order to match the colour of the object with its operating voltage level its colour has to be changed. This can be done by placing the cursor on the appropriate colour box in the Colour Pad. Then press the middle mouse button as you drag the cursor to the object whose colour you want to change.

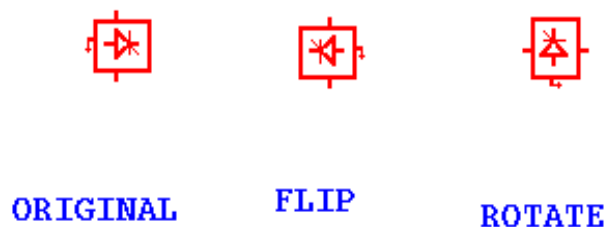


Figure 3.4: Effect of flip and rotate action

To complete the drawing of the Generating Plant draw a Busbar with the same colour as that of the alternator by repeating the procedure as explained in the last Section. Then draw a feeder from the alternator hotspot to the busbar. Drawing procedure for feeders is explained in the next Section. The completed generating plant is shown in Fig. 3.5

3.5 Drawing a Feeder

In this GUI any network that interconnects two busbars is treated as a feeder. Since two busbars can be connected by a transmission or a distribution line and also by a transformer, all of them are treated as feeders. Drawing procedure for a transformer feeder is different from the other two kinds as will be explained later. As far as the single line diagram is concerned a transmission or a distribution feeder consists of one or more line-segments. On the other hand a transformer feeder consists of a transformer icon and line segments.

For drawing line-segments on the drawing area you have to activate the ‘Line’ status button by placing the cursor on the button and clicking the left mouse button.

As mentioned at the beginning of this chapter a line should start from a

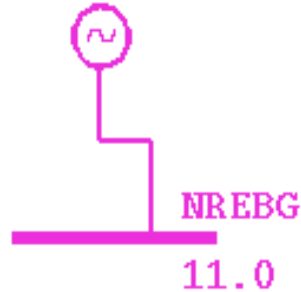


Figure 3.5: A sample Generating Station

busbar or from an object. So, to draw a feeder place the cursor on the busbar or on the hotspot of an object drag the cursor as the line is drawn. Once a line segment has started from an object or a busbar, other line segment can be drawn from its open end at any angle, at any direction and upto whatever length required.

Line segments must not only start from a busbar or an object, but a set of line segments connected to one another also must end at a busbar or an object. Open ended feeders WILL NOT BE SAVED by the GUI when saving the drawing.

3.5.1 Editing Line Segments

Line segments can be shortened or lengthened, shifted side to side or up and down or even rotated as explained in the Fig. 3.6 where two busbars are shown to be connected by a transmission line consisting of three line segments A B and C.

Shifting Line segment: For moving line segments A or C upward or downward place the the cursor on around the middle of the segments, as shown by the arrow mark, press the middle mouse button and simul-

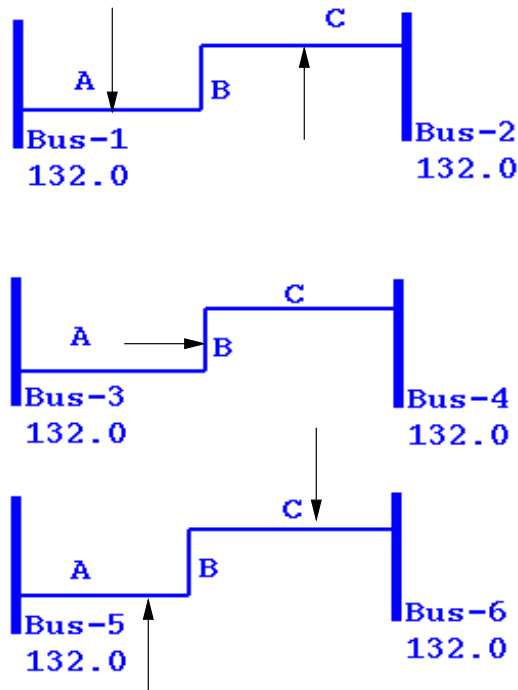


Figure 3.6: Editing of Line Segment

taneously drag the line up or down. As A or C moves, line segment B either increases or decreases its length.

Moving a line segment: For moving the line segment B right or left place the cursor on about the middle of the line(arrow mark) and drag it while keeping the middle mouse button pressed. This time lengths of both line segments A and C change to maintain connectivity.

Deleting a line segment: For deleting a line segment first of all ‘select’ it. Then using the ‘Edit’ Menu remove the segment pressing the ‘Delete’ function.

3.5.1.1 Drawing a Transmission or Distribution Feeder

You can join two busbars of the same colour only by a set of line segments. So, make sure that you have two busbars of the same colour before joining them. Before drawing a line place the cursor on the 'Line' radio button and press the left hand mouse button. The status of the colour for drawing the line will be shown in the status area. If it is not the right one, place the cursor on the correct colour box in the Colour Pad and press the left mouse button. Then start drawing the line 'from bus' end of the line as given in the line data information. This line drawing convention is important for two reasons:

1. After load flow solution line flows will be shown in the way the lines are drawn from one bus to another.
2. In case of a transformer feeder 'from bus' end is supposed to have the taps and thus it is the controlling end of the transformer.

Lines can be drawn horizontally, vertically or at any angle. Two busbars can be joined by one line-segment or more than one segment. From flexibility point of view, it is preferable to draw a feeder by more than one line segment. In that case rearrangement of busbars and editing of line segments at a later stage become easier.

Circuit Numbering There may be more than one circuit connecting two substations. As you draw the circuits consisting either of lines or of transformers, they are automatically numbered in the sequence they are drawn.

3.5.1.2 Drawing a Transformer Feeder

For drawing a transformer feeder you have to bring the transformer icon from the Object Pad in the same way as in the case of other objects. There is one major difference between a transformer icon and other icons. Once you

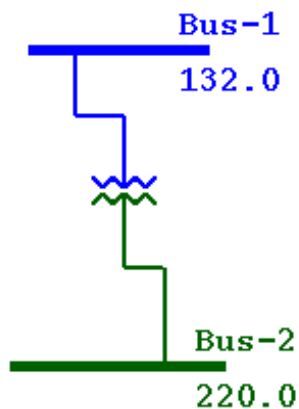


Figure 3.7: A Sample Transformer Feeder

have brought a transformer icon into the drawing pad and placed it on a particular position, you cannot shift it to any other position as in the case of other icons. So, before bringing the icon onto the Drawing Pad you have to find the exact location. If the location is not correct, you can always delete it by Editing procedure and then bring in another icon. All these are because transformer icon is a complex one consisting of two separate winding symbols.

It is possible to 'Rotate' or 'Flip' the icon with the help of the 'Tools' Menu as has been explained earlier.

Next you have to put the appropriate colour on the two windings of the transformer icon in the way explained earlier. Then join the 'from bus' end of the transformer to the busbar of the of the voltage level by drawing a set of line segments from the winding hotspot. After that join the 'to bus' end of the icon to the other busbar. If there is a colour mismatch, the feeder will not be correctly drawn. In FIG. 3.7 the preferred modes of drawing transformer feeders are shown.

3.6 Drawing of HVDC System

The HVDC transmission systems are represented symbolically by a converter system, an inverter system, interconnecting transformers, DC busbars and lines as shown in Fig. 3.8.

For drawing HVDC system you have to bring two transformer icons and two rectifier/inverter icons which have two hotspots each. The colour scheme shown in the figure are for a 500 KV DC system. However, it is possible to draw for any other voltage level. The drawing steps are as given below:

Step 1: Draw the two AC busbars with appropriate colours and connect them to the transformer

Step 2: Bring two transformer icons and two rectifier/inverter icons which have two hotspots each.

Step 3: Connect the primary windings of the two transformers to the AC busbars by line segments with appropriate colour.

Step 4: Connect the other windings of the transformers to the two rectifier/inverter icon-hotspots by line segments.

Step 5: Draw two DC busbars with correct colour and connect the other two rectifier/inverter icon-hotspots with line segments of proper colour.

Step 6: Join the two DC busbars with line segments of the same colour as that of the busbars themselves to represent DC lines.

3.7 Drawing a Substation

Following different types of default substations are available for use in the single line diagram:

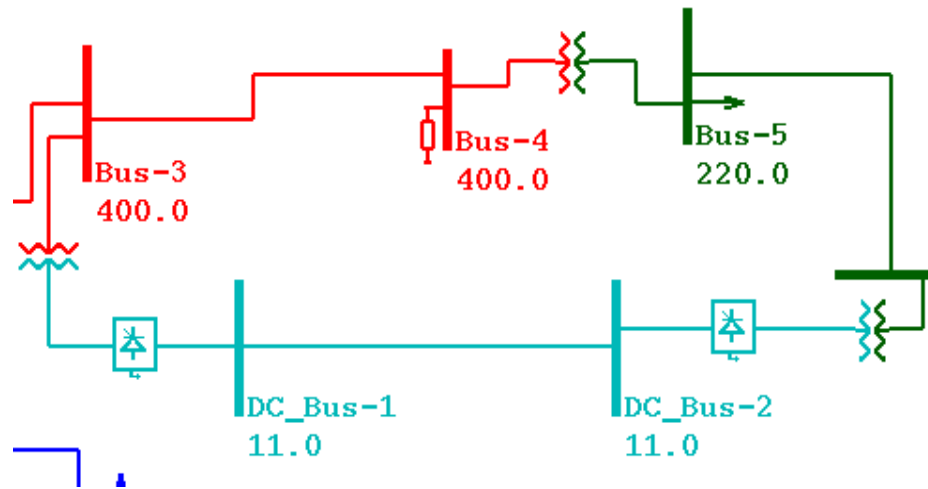


Figure 3.8: Single Pole HVDC System

Substation Type

Breaker and a half for 400 KV
 Double Main for 220/132 KV
 Double Main and Transfer .. for 220/132 KV
 at generating
 stations

Types of substations have been standardized for different voltage levels as mentioned above. But, there are always some substations which do not conform to the standard types. In these cases after drawing a standard one modifications can be carried out and saved as special cases.

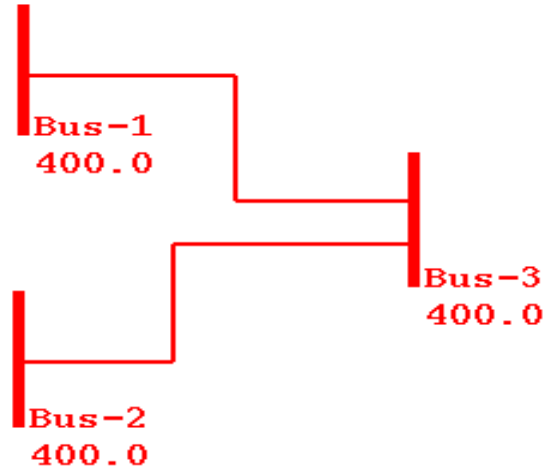


Figure 3.9: 400 KV Busbar

3.7.1 Editing a Substation

There is facilities for generating nonstandard substations and keeping them stored as special cases. Whenever the concerned busbar is clicked after selecting the Substation status button, these substations will be displayed.

3.7.2 400 KV Substation

A three busbar system at 400 KV is shown in Fig. 3.9 The corresponding substation layout for the Substation is shown in Fig. 3.10

In this diagram two transmission lines from bus-1 and two lines from bus-3 are connected to bus-2. The lines were drawn in the sequence A C B D. For this sequence the corresponding bay arrangement is shown in the substation diagram. In the Breaker-and- a-half arrangement the three circuit breakers form a bay. For correct bay formation following points are to be kept in mind:

- For putting in the same bay the two lines should be drawn one after

the other. The line that is drawn first is directed upwards. The line drawn next is directed downwards. If the feeders were drawn in the sequence A B C D then the two feeders connected to busbar-1 would have been put on the same bay, one directed upwards and the other directed downwards.

- If the lines have not been drawn initially in the sequence for correct bay arrangement, then by deleting the line-segments A B C D only and redrawing them in the proper sequence the bay arrangement can be modified.

3.7.3 220 KV Substation

A 220 KV three-busbar system is shown in Fig. 3.11. In this system also the feeders have been drawn in the sequence of A B C and D as shown in the diagram. This was again necessary for connectivity of the feeders to the far-end substations. The corresponding substation diagram is shown in Fig. 3.12.

3.8 Drawing Static VAR System

To draw static VAR compensator(SVS) system follow the following steps:

1. Bring the icon representing the SVS system from the icon pad and place it at the appropriate place. If necessary for reorientation, you may flip or rotate the icon.
2. By following the steps as mentioned earlier draw the busbar to which the SVS is to be connected.
3. Draw appropriate number of line segments to connect the SVS to the busbar.

A sample drawing of an SVS system is shown in Fig. 3.13.

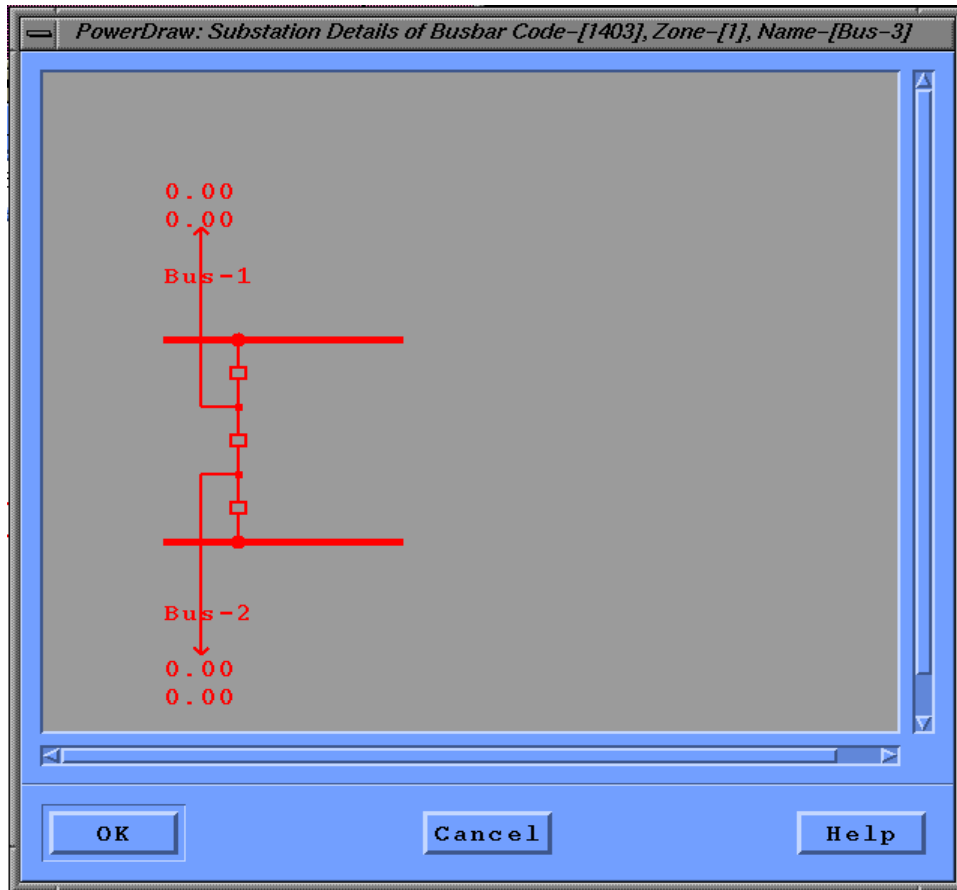


Figure 3.10: 400 KV Substation Scheme

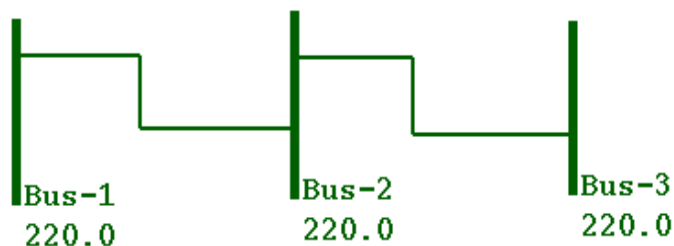


Figure 3.11: Three busbar 220 KV system

3.9 Checking the Correctness of Drawing

There is facility for checking whether the drawing has been done correctly or not. For the purpose of checking follow the procedures given below.

1. For checking the continuity of line segments place the cursor on any line segment and press the middle mouse button. The line segment you have pressed and the two segments connected to the two ends of it(if there are) will be shown dotted as long as you keep the button pressed.
2. For checking the connectivity of lines to a busbar, place the cursor on the busbar and press the middle mouse button. In this case all the lines segments connected to this busbar will be shown as dotted. Drag the busbar slightly with the mouse button pressed. All the line segments will also move with it with their other ends remaining fixed.
3. For checking the connectivity of an object place the cursor on the object, press the middle button and drag the object away from the original position and release the button. The segment of the feeder connected to the object hotspot will re-adjust itself to connect to the new position of the hotspot.

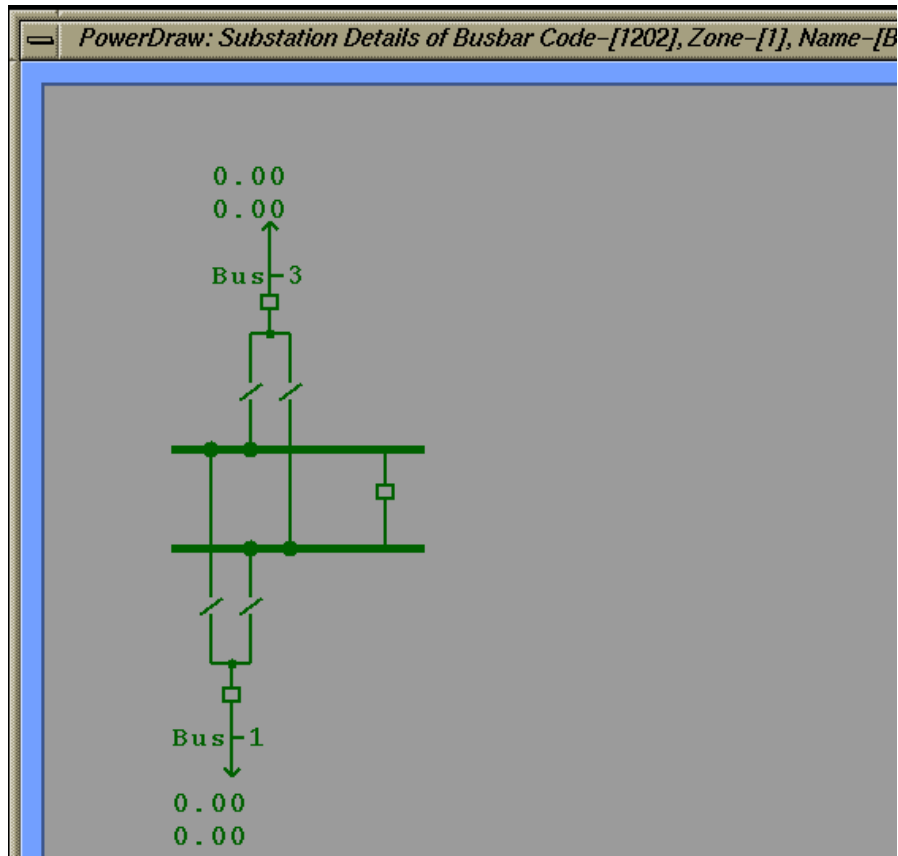


Figure 3.12: Three busbar 220 KV substation

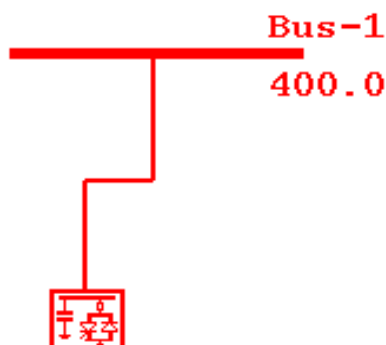


Figure 3.13: A sample SVS system

Apart from these procedures there are two more in-built checks for checking the correctness of the single line drawing of an electrical network:

1. When you save the drawing into a file, a detailed list of all the errors in the drawing will be printed on the window.
2. If there is any mistake in the drawing process, the appropriate dialog boxes will not appear in the window when attempted to provide data for the system as explained in the next Chapter.

3.10 Saving the Drawing

After the drawing is complete and checking is done place the cursor on the 'File' Menu and press the left mouse button and then press the 'Save' button. The drawing program also provision to save the content every FIFTEEN minutes automatically.

IT IS PREFERABLE TO SAVE THE DRAWING AT REGULAR INTERVALS BY FOLLOWING THE ABOVE PROCEDURE WHEN YOU ARE DRAWING A LARGE SYSTEM DIAGRAM.

Chapter 4

Generation of Data Files for *POWER SYSTEM STUDY*

4.1 Introduction

One of the important capabilities of the POWERDRAW GUI is the generation of comprehensive data files that are required for different types of power system studies. The necessary data files can be prepared either during the process of drawing the single line diagram or after the completion of the drawing process. The simplicity and ease with which one can generate the data files are some of the special features of the package. These facilities help you avoid the process of data-file preparation manually.

4.1.1 File Structure

The POWERDRAW GUI works on file system. When the Powerdraw window is opened on the screen, it simultaneously opens three following files:

Filename.pdr:

Filename.pdt:

Filename.pdg:

Filename.pdr : This file is required for drawing the single line diagram.

This file is generated as the drawing process is continued in the drawing pad. There is no scope of editing this file except through the modification in the single line diagram.

Filename.pdt : This file contains all the system data except the generator data. This file is also generated during the process of drawing the single line diagram, but the file is filled with only the default values. These values are replaced by proper values when these are supplied as described in this Chapter.

Filename.pdg : This file contains the details of all the generators in all the power plants. Initially this data file is also filled up with default values of all the generator parameters.

where Filename = name of the file given at the time of starting the drawing process through the Dialog Box 'NEW'. For example if you supply the file name as NREB SYSTEM, the GUI will generate:

```
NREB SYSTEM.pdr
NREB SYSTEM.pdt
NREB SYSTEM.pdg
```

The structure of the files are given below except the .pdr file since this file cannot be edited except through the GUI.

Important Note: ALL PER UNIT VALUES ARE TO BE SUPPLIED
ON 100 MVA BASE.

4.2 Network System Data File Preparation

The network system data file(filename.pdt) has been prepared in such a way that the same file can be used for Load Flow Analyses, Short Circuit

Studies as well as Transient Stability Assessment. It contains the following sets of data:

System Description Data

System Summary Data

Busbar Data

Transmission Line Data

Transformer Data

Voltage Control Busbar Data

Slack or Swing Busbar Data

Shunt Capacitor/Reactor Data

Static VAR System Data

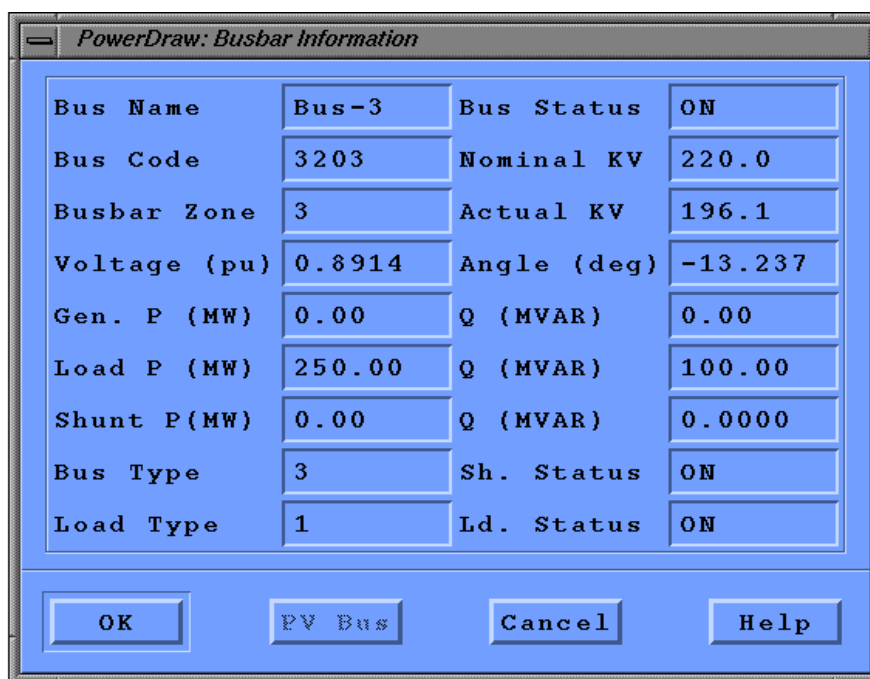
Phase Shifter Data

HVDC System Data

All data are entered through appropriate easy-to-use Dialog boxes using the 'Action/Status' buttons. It is not necessary that data are to be supplied in the order as given above. Data can be supplied to the GUI in any way as the drawing process progresses. The GUI itself rearranges the data in the order as mentioned above and also generates the SYSTEM SUMMARY DATA.

4.2.1 Busbar Data

For providing busbar data two different types of Dialog boxes have been arranged; one for the AC busbars and the other for the HVDC busbars.



The image shows a Windows-style dialog box titled "PowerDraw: Busbar Information". It contains a table of busbar data with 10 rows and 4 columns. The first two columns are labels, and the next two are input fields. The data is as follows:

Bus Name	Bus-3	Bus Status	ON
Bus Code	3203	Nominal KV	220.0
Busbar Zone	3	Actual KV	196.1
Voltage (pu)	0.8914	Angle (deg)	-13.237
Gen. P (MW)	0.00	Q (MVAR)	0.00
Load P (MW)	250.00	Q (MVAR)	100.00
Shunt P (MW)	0.00	Q (MVAR)	0.0000
Bus Type	3	Sh. Status	ON
Load Type	1	Ld. Status	ON

At the bottom of the dialog box, there are four buttons: "OK", "PV Bus", "Cancel", and "Help".

Figure 4.1: The Busbar Information Window

4.2.1.1 A.C. busbar data

For providing busbar data place the cursor on the radio button 'Bus Info' and press the left mouse button. Then take the cursor to the busbar for which data are to be provided and press the left mouse button. Immediately a Dialog Box appears as shown in Fig 4.1

In this Dialog box all the default values are shown. All the values except the nominal voltage(KV) and, to a limited extent, the busbar code can be changed. As you change the busbar code, the Busbar Zone number in the dialog box changes automatically depending on the first digit of the four digit busbar code as explained earlier. The nominal voltage in KV of a busbar is related to the colour as explained earlier. Altogether eighteen values are to be supplied. While supplying data the following points are to be kept in mind:

Busbar Code Change The busbar code is automatically generated during the drawing process as explained in the last chapter. However the Zone code and the serial number can be changed through the Dialog box. When you change the Zone code the first digit of the busbar code gets automatically changed. Next you change the last two digits keeping in mind the last serial number in that particular zone. **DUPPLICATION OF BUSBAR CODE IS NOT PERMITTED.**

Reactive Power Convention For both generation and load the reactive power should be **POSITIVE** for **LAGGING POWER FACTOR** and **NEGATIVE** for **LEADING POWER FACTOR**.

Bus Status It is for indication whether the busbar is connected to the system. Similarly, Shunt load Status and Load status are also to be indicated. Following are the two alternatives:

Status = ON means connected to the system
Status = OFF means not connected to the system

Once the interconnected network has been drawn with all the connectivity the status of all components are automatically taken from the network connectivity. For this reason the 'Status' of any component cannot be changed through the Dialog boxes. There are two ways to change the status of any of the components :

- 1 Take the cursor to the 'Utility' Submenu and click the left mouse button. Then select the option 'Status Ch.'. Instantly, a small window will appear as shown Fig 4.2.

After closing the window take the cursor to the busbar whose status is to be changed and click the left mouse button. Then another window appears as shown Fig 4.3.

If you want to change the status, the click the 'Accept' button at the bottom of the window. Otherwise, 'Cancel' the window.

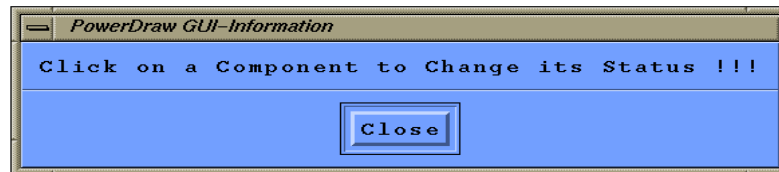


Figure 4.2: Information for Status Change

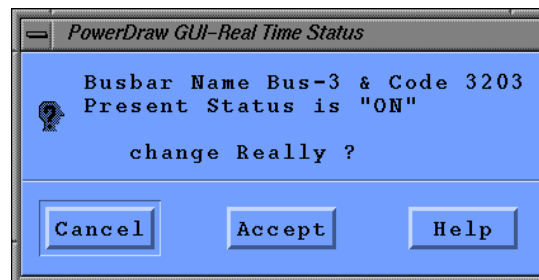


Figure 4.3: Changing Busbar Status

- 2 To carry out an Operator Load Flow with the status changed and saving the case study into a file. This procedure will be explained in detail in the chapter on Operator Load Flow.

It is however very dangerous to change the status of a busbar since all the lines, transformers, loads and shunt loads will remain unconnected and will create problem with the single line drawing.

You can change the status of any of the components following the procedure mentioned above.

Busbar Types For the purpose of Load Flow Analysis busbars are divided into three different types:

Bus Type	Code
*****	****

Slack Busbar	1
Voltage Control Busbar	2
Load Busbar	3

Function of PushButton There are four ‘Action buttons’ at the bottom of the dialog box.

OK This button is to be used for saving the data supplied in the dialog box.

Next For supplying additional data for slack busbar and voltage control busbar take the cursor to ‘Bus Type’ window and change the default value by 1 or 2 depending on whether it is a Slack bus or a voltage control bus. As you do this a second dialog box appears for inputting the additional data. This dialog box also appears when you press the ‘Action button’, ‘Next’ at the bottom of the window.

Cancel If the data supplied are not correct and you do not want to save them, then you place the cursor on this button and press the left mouse button. All the data supplied will be replaced by the default values and you can edit them again.

Help This button, when pressed, will bring the help message in a separate window.

4.2.1.2 Load Type

Six different models are available for load modeling. A user can use any one of them. These are as given below:

Load Model 1 = Basic Constant MVA model.

Load Model 2 = Voltage and Frequency sensitive MVA model

Load Model 3 = Includes Load Management in Model 1

Load Model 4 = Includes Load Management in Model 1

Load Model 5 = Includes Voltage Regulation in Model 1

Load Model 6 = Includes all (Voltage and frequency sensitivity, Load Management, Voltage Regulation.)

Detailed modeling of these different types are explained in Technical Manual.

4.2.1.3 Busbar Data Range

Following restrictions are to be observed while supplying the busbar data:

```

Bus Name ..... Seven character Alpha-Numeric
Bus Status ..... One digit
Bus Code ..... Four digit(maximum)
Bus Zone ..... Two digit(maximum)
Nominal Voltage ..... Non-edit-able
Bus Voltage(pu) ..... No change required
Bus Angle(deg) ..... No change required
Gen. P (MW) ..... 99999.99 (maximum)
Gen. Q (MVAR) ..... 9999.99 (maximum), positive for
                        lagging power factor
Load P (MW) ..... 99999.99 (maximum)
Load Q (MVAR) ..... 9999.99 (maximum), positive for
                        lagging power factor
Busbar Shunt (MW).... 9999.99 (maximum)
Busbar Shunt (MVAR).. 9999.99 (maximum), positive for
                        capacitive VAR
Bus Type ..... One digit (maximum)
Load Type ..... One digit (maximum)
Shunt Status ..... ON(default)/OFF

```



```

Load Status ..... ON(default)/OFF
Bus Status ..... ON(default)/OFF

```

N.B.1 If some load is placed on a busbar, an arrow is automatically put on that particular busbar in the single line diagram to indicate the existence of a non-zero load on the busbar.

N.B.2 If a non-zero value is put, a capacitor or a reactor is automatically shown on the single line diagram depending on whether the value is positive or negative.

To supply a particular set of data, place the cursor on the corresponding data box in the Dialog Box and press the left mouse button to activate it. The default data can be removed by using the 'Backspace' key in the keyboard. Then type the new data within the restrictions mentioned above. If you type 1 or 2 against 'Bus Type' a second Dialog Box appears for the supply of additional data for the Slack Bus or Voltage Control Busbar respectively. The Dialog Box is shown in Fig 4.4. These data are to be supplied within the following restrictions:

4.2.1.4 Range of values for slack and P-V busbar

Following are the ranges of values for the Voltage Control Busbar data:

```

V scheduled ..... Upto fourth place after decimal
V max ..... Upto fourth place after decimal
V min ..... Upto fourth place after decimal
P max ..... 99999.99(MW) Maximum

```

Additional Busbar Information

Slack busbar Info

Vscheduled (pu)	1.0000
Vmin (pu)	0.9500
Vmax (pu)	1.0500
Pmin (MW)	50.00
Pmax (MW)	200.00
Qmin (MVAR)	-50.00
Qmax (MVAR)	150.00

OK Cancel Help

Figure 4.4: The P-V Bus Information Window

```

P min ..... 99999.99(MW) Maximum
Q max ..... 9999.99(MW) Maximum, Positive
                for lagging power factor
Q min ..... 9999.99(MW) Maximum, Positive
                for lagging power factor

```

After supplying the data press the 'OK' button on the Dialog Box. The supplied data are accepted. In case wrong data have been entered, you can cancel them by pressing the 'Cancel' button and enter the data afresh.

This process is to be repeated for all the busbars.

DC busbar data formation is described in the section 'HVDC System Data'.

4.3 Transmission Line and Transformer Data

For supplying feeder data two different Dialog boxes have been prepared.

```

One dialog box for transmission line data
One dialog box for transformer data

```

4.3.1 Transmission Line Data

The Dialog Box for providing transmission line data is shown in Fig 4.5. To get the Dialog Box first place the cursor on the 'Feeder Info' Radio Button and press the left mouse button. Then take the cursor to the feeder whose parameters are to be supplied and press the left mouse button. The dialog box with all the default values appears on the screen. Since some of the informations are taken from the single line diagram, they are not edit-able. The following are the range of values to be supplied:

PowerDraw: Feeder Information

Feeder Connects from Bus-1 to Bus-2

From Busbar	1201	To Busbar	2202
Circuit No	1	Status	ON

Impedance R(pu)	0.0500	X (pu)	0.1200
HalfLine Y G(pu)	0.0000	B (pu)	0.2000
Capacity (MVA)	200.00	Type	5
Reactor FromBus	0.0000	To Bus	0.0000
Fwd Flow P(MW)	0.0000	Q (MVAR)	0.0000
Back Flow P(MW)	0.0000	Q (MVAR)	0.00

OK Next Cancel Help

Figure 4.5: The AC Feeder Information Window

4.3.1.1 Range of values for feeder

Following restrictions are to be observed while supplying the busbar data:

From Busbar	Not edit-able
To Busbar	Not edit-able
Circuit No	Not edit-able
Status	ON(default)
Series Resistance	In per unit upto five places after decimal
Series Reactance	In per unit upto five places after decimal
Line Shunt G	Line Shunt Conductance In per unit upto five places after decimal
Line Charging B	Line Charging Susceptance In per unit upto five places after decimal
Capacity(MVA)	Maximum continuous rating of the line in MVA, 9999.99 Maximum
From Bus Reactor(*) ..	Per Unit Admittance of the line connected reactor upto four places after decimal, at the 'From Bus' end of the line.
To Bus Reactor(*)	Per Unit Admittance of the line connected reactor

upto four places after decimal, at
the 'To Bus' end of the line

Forward Flow Need not be supplied, this will be
displayed automatically after a
load-flow study.
These values indicate active and
reactive power flow measured at the
'From bus end' of the feeder.

Backward Flow Need not be supplied, this will be
displayed automatically after a
load-flow study
These values indicate active and
reactive power flow measured at the
'To bus end' of the feeder.

(*) N.B. Both these two values should have negative sign
before them since these are reactive in nature.

After supplying the data place the cursor on the 'OK' button and press
the left mouse button. If the supplied data are not correct, you can always
'Cancel' them.

4.3.2 Transformer Data

The Dialog box for providing the transformer data is shown in Fig 4.6. For
getting this dialog box also activate the 'Feeder Info' action button and then
place the cursor on the transformer feeder for which data are to be supplied.
While some of the data are similar to those of a transmission line, additional
information are required for details of taps and type of connection.

Tap Details A tap changing type transformer, whether on-load or off-load type, will have certain number of tap positions above the nominal value and certain number of tap positions below the nominal value. It is assumed that the step size of the taps are equal. The default values are shown in the Dialog box. Tap Min Pos. shows the default value of the number of taps below the nominal position. Similarly, Max Pos. indicates the number of taps above the nominal position. Incr. Tap indicates the default values of the tap step in percentage. Tap Pos. = 0 indicates that the default tap position is at the nominal position. All these values are edit-able. It is to be kept in mind that the taps are at the ‘from bus’ end of the transformer.

Changing the Transformer Tap Ratio The transformer off-nominal tap ratio can be changed only through the Dialog box only. If you change the ‘Tap Position’ from 0 to any other value within the limits, the off-nominal ratio gets changed correspondingly. For example, if the tap position is entered as 3, the off-nominal ratio will be automatically changed to 1.0375. Increment or decrement is in terms of steps only. Off-nominal tap ratio cannot be changed arbitrarily.

Phase-shifting Transformer In case of a Phase-shifting transformer the angle by which the phase of the secondary voltage is to be shifted is to be provided in degrees. A positive value of the angle means that the secondary voltage is in phase-advance with respect to the primary voltage and the vice-versa.

Transformer Connection Types There are different types of connections for two winding transformers. They have been categorized in the following way for providing data:

Type of Connection	Identifier
*****	*****

Primary/Secondary

Delta/Delta	0
Delta/Star(ungrounded)	1
Delta/Star(grounded)	2
Star/ Star(both ungrounded)	3
Star(ungrounded)/Star(grounded)	4
Star(grounded)/Star(grounded)	5
Star(ungrounded)/Delta	6
Star(grounded)/Delta	7
Star(grounded)/Star(ungrounded)	8

Data are to be entered in the same way as in the case of transmission lines and the limits are also similar.

From Busbar Not edit-able
 To Busbar Not edit-able
 Circuit No Not edit-able
 Status ON(default)

Series Resistance In per unit upto
 five places after decimal

Series Reactance In per unit upto
 five places after decimal

Capacity(MVA) Maximum continuous rating of the
 line in MVA, 9999.99 Maximum

Type This refers to the type of

PowerDraw: Transformer Information

Transformer connects from Bus-1 to Bus-4

From Busbar	1201	To Busbar	1004
Circuit No	1	Status	ON

Impedance R(pu)	0.0000	X (pu)	0.0500
Off-Nom. Ratio	1.0000	Angle	0.00
Capacity (MVA)	100.00	Type	7
Tap Min Pos.	-8	Max Pos.	8
Incr. Tap (%)	1.250	Tap Pos.	0
Fwd Flow P(MW)	0.0000	Q (MVAR)	0.0000
Back Flow P(MW)	0.0000	Q (MVAR)	0.0000

OK Next Cancel Help

Figure 4.6: The Transformer Information Window

connection as mentioned in the
Table.

Tap details are to be as per the design details.

4.4 Static VAR System

The Dialog box for supplying the static VAR system is shown in Fig 4.7. For getting this box put the cursor on the 'Object Info' radio button and press the left mouse button. Then take the cursor to the icon of the SVS system in the single line diagram for which data are to be supplied and press the left mouse button. The following data are to be supplied within the range as mentioned below.

```

Busbar Code ..... Not edit-able
Status ..... ON(default)
Susceptance Min(pu)* ..... Upto 5 places after decimal
Susceptance Max(pu)** ..... Upto 5 places after decimal
Slope Inductive ..... Upto 5 places after decimal
Slope Capacitive ..... Upto 5 places after decimal
Voltage (pu)(i) ..... Upto 5 places after decimal

```

* This is the maximum value in pu on 100 MVA base of
capacitive VAR that the SVS can supply.

** This is the maximum value in pu on 100 MVA base of
reactive VAR that the SVS can supply.

(i) This is the reference voltage setting for controlling the
SVS output.

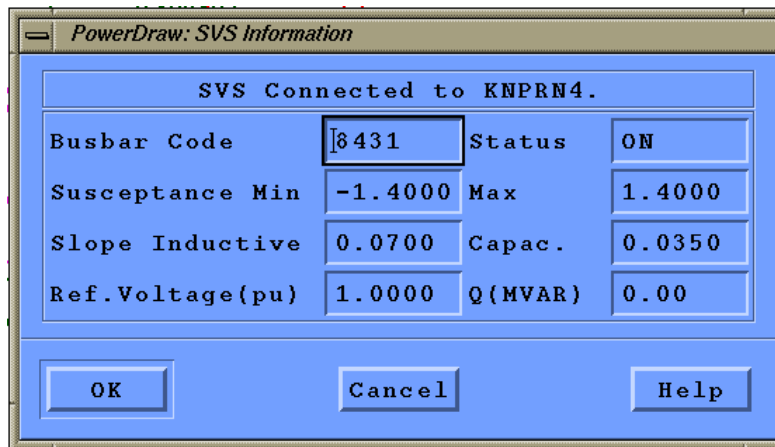


Figure 4.7: The SVS Information Window

4.5 HVDC System Data

HVDC system data are supplied through four different Dialog boxes:

- One dialog box for DC busbar data
- One dialog box for ACDC feeder data
- One dialog box for DC feeder data
- One dialog box for Converter/inverter system data

4.5.1 DC Busbar Data

The Dialog box for supplying the data for a HVDC busbar is shown in Fig 4.8. This Dialog box is simpler than the AC Busbar Dialog box. First place the cursor on the 'Bus Info' action button and press the left mouse button. Then place the cursor on the DC busbar for which data are to be supplied and again press the left mouse button. For each busbar data are to be supplied within the following range:

```

Bus Name ..... Seven digit Alpha-Numeric
Bus Status ..... ON(default)/OFF
Bus Code ..... 4 digit integer
Busbar Zone ..... 2 digit integer
Nominal KV ..... 2 digit after decimal
Actual KV* ..... 2 digit after decimal
Voltage(pu)* ..... 4 digit after decimal
Conv./Inv. ** ..... 1 for converter
                        -1 for inverter
Power(MW)* ..... 2 digit after decimal
Current(KA) ..... 2 digit after decimal
Load(MW)* ..... 2 digit after decimal
Status ..... ON (default)/OFF

```

** This value indicates whether the DC busbar is connected at the converter end or inverter end.

* The actual values of these quantities will be shown after the network solution.

4.5.2 ACDC Feeder Data

These sets of data give the detail of ACDC connectivity as shown in the Dialog box shown in Fig. 4.9.

Range of values for HVDC Feeder:

```

From Busbar ..... Not edit-able
To Busbar ..... Not edit-able
Branch Type ** ..... 1 or -1
Fwd Flow(MW) ..... Not to be supplied
Fwd Flow(MVAR) ..... Not to be supplied

```

Bus Name	RHVDC-2	Bus Status	ON
Bus Code	8502	Nominal KV	500.0
Busbar Zone	8	Actual KV	500.00
Voltage(pu)	1.0000	Conv./Inv.	1
Power (MW)	0.00	Current (A)	0.00
Load (MW)	0.00	Status	True

OK PV Bus Cancel Help

Figure 4.8: The DC Busbar Information Window

Back Flow(MW) Not to be supplied
 Back Flow(MVAR) Not to be supplied
 Branch Status ON(default)/OFF

** This indicates whether the branch is connected to negative pole or positive pole in a bipolar system.

4.5.3 HVDC Feeder data

The Dialog Box for supplying HVDC feeder data is shown in Fig 4.10. In case of bipolar system there will be two parallel circuits. Any one of them can be circuit number one and the other circuit number two. Reactance parameter is not normally required for load-flow study but to be supplied for more detailed representation.

Range of values for HVDC Feeder are:

From Busbar Not edit-able

AC-DC Branch from RHVDC-1 to RIHND4			
From Busbar	8501	To Busbar	8433
Branch Type	1	Br. Status	ON
DC Consumes P (MW)		0.00	Q (MVAR)
		0.00	

OK Next Cancel Help

Figure 4.9: The ACDC feeder Information Window

To Busbar Not edit-able
 Circuit No Not edit-able
 Status ON(default)/OFF
 Series Resistance In per unit upto
 five places after decimal

 Series Reactance In per unit upto
 five places after decimal

4.5.4 ACDC Converter/Inverter data

The connection between the AC system and the DC system is through transformers and rectifiers or inverters. A Dialog box has been designed to supply data for the entire ACDC link with all the details of the transformers and the converters or inverters. The Dialog Box is shown in Fig 4.11. Altogether forty data are to be supplied. The details of all the data are described below.

First, you have to specify the total number of converter units connected in series. For doing this place the cursor in the box and click the left mouse button. Then erase the default value by pressing the 'Backspace' key. Then type the required value and press the 'Enter/Return' key.

DC Feeder Connects from DHVDC-1 to RHVDC-1			
From Busbar	8505	To Busbar	8501
Circuit No	1	Status	ON
Impedance R(pu)	10.6720	X (pu)	0.1000
Fwd. Flow P(MW)	0.00	Q (MVAR)	
Back Flow P(MW)	0.00	Q (MVAR)	

OK Next Cancel Help

Figure 4.10: The HVDC feeder Information Window

The data to be supplied are grouped in the way these are arranged in the data file.

For Each Converter:

First Record:

- 1: Serial No. of Converter
- 2: AC Busbar Code
- 3: Rated Transformer Primary Voltage (KV)
- 4: Rated Transformer Secondary Voltage (KV)
- 5: Commutation Resistance (Ohm)
- 6: Commutation Reactance (Ohm)
- 7: Unit Control Mode (**) 1->Power
2->Voltage
3->Angle
4->Current
- 8: Status of Converter ON(default)/OFF

Second Record:

- 1: Minimum DC Voltage (KV)
- 2: Maximum DC Voltage (KV)
- 3: Magnitude of DC Voltage (KV)
- 4: Minimum DC Power (MW)
- 5: Maximum DC Power (MW)
- 6: Magnitude of DC Power (MW)
- 7: Minimum DC Current Value (KAmp)
- 8: Maximum DC Current Value (KAmp)
- 9: Magnitude of DC Current (KAmp)

Third Record:

- 1: Incremental Tap Step(1.25% default)
- 2: Minimum Tap Position(default 8)
- 3: Maximum Tap Position(default -8)
- 4: Present Tap Position
- 5: Minimum Firing Angle (in Degree)
- 6: Maximum Firing Angle (in Degree)
- 7: Present Firing Angle (in Degree)

Fourth Record:

- 1: AC Blocking Voltage (KV)
- 2: AC Unblocking Voltage (KV)
- 3: Minimum Blocking Time (Sec)
- 4: DC Bypass Voltage (KV)
- 5: DC Unbypass Voltage (KV)
- 6: Minimum Bypass Time (Sec.)
- 7: Restart Voltage (KV)
- 8: Voltage Ramp Rate (KV/Sec)
- 9: Restart Current (KAmp)

10: Current Ramp Rate (KAmp/Sec)

Fifth Record: (VDCOL Characteristic)

1: V1

2: C1

3: V2

4: C2

5: V3

6: C3

**** Note:** For each type of control mode the exact value controlling the operation **MUST** be specified.

After supplying these data for the first converter/inverter press the ‘Save’ radio button and then the ‘Next’ button for supplying data for other converter/inverter.

4.5.5 Functions of PushButton

There are six PushButtons at the bottom of the Dialog Box. Their functions are:

Quit When this button is pressed the Dialog Box is removed from the screen.

Save This button is to used for saving the current content in the Dialog Box. This means that after supplying data for every converter or inverter the Save button has to be pressed.

Delete This button is to used for deleting the current content of the Dialog Box.

Prev When this button is pressed the last set of data are brought into the Dialog Box in place of the current data.

Next This button is to used for bringing the next set of data, if any, into the Dialog Box in place of the current values.

Help Pressing the Help button brings the Help message into the screen in a separate window.

4.5.6 The Format Structure of .pdt File

After all the data are supplied according to the procedure as explained above, the GUI rearranges the data and writes them into the 'Filename.pdt' file according to a pre-defined format structure. Though it is not necessary to edit this data file directly, as this can always be done through the GUI, at times it may be convenient to make minor changes to save time.

The format structure of the entire 'filename.pdt' file is given below:

First Record: format(a80)

Title of This Data File title

Second Record: format(8i5,f7.2,i5,f8.5,i5)

1: Total No. of Busbars	nb
2: Total No. of Feeders (including Transformers)	nl
3: Total No. of Transformers	ntr
4: Total No. of Voltage-Control Busbars	nvc
5: Total No. of Shunt Loads	ns
6: Total No. of Phase Shifters	nph
7: Total No. of SVS'	nsvs
8: Slack Busbar Code	nsb
9: Base MVA	pbase
10: No. of Iterations for Convergence	kmax

PowerDraw GUI: AC-DC Transformer & Converter Information

Total No. of Convertors

Serial No.	<input type="text" value="1"/>	BusbarCode	<input type="text" value="8502"/>	Status	<input type="text" value="ON"/>
Comm.R (ohm)	<input type="text" value="0.3400"/>	X (ohm)	<input type="text" value="9.0000"/>	Ctrl Type	<input type="text" value="4"/>
Tran Pri KV	<input type="text" value="400.00"/>	Secondary	<input type="text" value="213.00"/>	Inc. Step	<input type="text" value="0.013"/>
TapPos. Min	<input type="text" value="-8"/>	max.value	<input type="text" value="8"/>	act.value	<input type="text" value="0"/>
V min. (KV)	<input type="text" value="0.000"/>	max.value	<input type="text" value="250.00"/>	act.value	<input type="text" value="250.00"/>
P min. (MW)	<input type="text" value="50.00"/>	max.value	<input type="text" value="375.00"/>	act.value	<input type="text" value="300.00"/>
I min. (A)	<input type="text" value="0.00"/>	max.value	<input type="text" value="1.50"/>	act.value	<input type="text" value="1.20"/>
FirAng (deg)	<input type="text" value="12.50"/>	max.value	<input type="text" value="17.50"/>	act.value	<input type="text" value="0.00"/>

Block Volt. KV	<input type="text" value="0.00"/>	UnBlock KV	<input type="text" value="0.00"/>
Bypass Volt. KV	<input type="text" value="0.00"/>	UnBypass KV	<input type="text" value="0.00"/>
Block Time (s)	<input type="text" value="0.00"/>	ByPass T(s)	<input type="text" value="0.00"/>
Ramp Volt. KV	<input type="text" value="0.00"/>	Ramp Cur.(A)	<input type="text" value="0.00"/>
Restart Volt. KV	<input type="text" value="0.00"/>	Restart I(A)	<input type="text" value="0.00"/>

V1 (KV)	<input type="text" value="0.00"/>	V2 (KV)	<input type="text" value="0.00"/>	V3 (KV)	<input type="text" value="0.00"/>
C1 (A)	<input type="text" value="0.00"/>	C2 (A)	<input type="text" value="0.00"/>	C3 (A)	<input type="text" value="0.00"/>

Figure 4.11: The ACDC Branch Information Window

```
Third Record: (Busbar Data)    format(i5,2a4,i3,f7.2,4f9.3,f7.4,
                                f8.3,4i2)
```

Fourth Record: (Feeder Data) (i4,a2,2i5,i3,3f8.5,f7.2,2f9.5,i2)

1: Serial No.	
2: AC Feeder Flag ('f' => feeder)	type
3: From-Busbar Code	nf
4: To-Busbar Code	nt
5: Circuit No.	pln
6: Resistance Value in pu)
7: Reactance Value in pu	) y
8: Half Line Charging Susceptance in pu	b
9: MVA Capacity of Feeder	climit

10: Reactor at From-Bus	ylff
11: Reactor at To-Bus	yltt
12: Status of the Feeder (OFF/ON(default))	lnstatus

Fifth Record: (Transformer Data) (i4,a2,2i5,i3,2f8.5,f7.1,f6.3,
2i4,i3,f8.5,f8.3,i3,i2)

1: Serial No.	
2: AC Transformer Flag ('x' =>Transformer)	type
3: From Busbar Code	nf
4: To Busbar Code	nt
5: Circuit No.	pln
6: Resistance Value in pu)
7: Reactance Value in pu	) y
8: MVA Capacity of Transformer	climit
9: Incremental Tap Step (in %)	abc
10: Minimum Number of Tap Steps (-ve)	
11: Maximum Number of Tap Steps (+ve)	
12: Current Tap Position	
13: Off Nominal Transformer Ratio	
14: Angle of the Transformer (for Phase shifter)	
15: Transformer Connection Type	
16: Status of this Transformer ON(default)	

Sixth Record: (Voltage-Control Busbar Data)(i4,i7,4f9.3,3f7.4)

1: Serial No.	i
2: Busbar Code	nvc
3: Minimum Active Power	pmin
4: Maximum Active Power	pmax
5: Minimum Reactive Power	qmin
6: Maximum Reactive Power	qmax
7: Specified Magnitude of Voltage	esh

8: Voltage Range (Minimum))	vmin
9: Voltage Range (Maximum)	vmax

Seventh Record: (Slack Busbar Data) (i4,i7,4f9.3,f7.4)

1: Serial No.	
2: Slack Busbar Code	
3: Minimum Real Power (MW)	pminsl
4: Maximum Real Power (MW)	pmaxsl
5: Minimum Reactive Power (MVAR)	qminsl
6: Maximum Reactive Power	qmaxsl
7: Specified Voltage Magnitude of Slack Busbar	vsl

Eighth Record: (Shunt Load Data) (i4,i7,2f10.5,i2)

1: Serial No.	
2: Busbar Code	nsc
3: Shunt G)	
4: Shunt B)	ycap
5: Status of the Shunt	slsts

Ninth Record: (Phase Shifter Data) (i4,i7,i5,i3,f7.3,f8.3)

1: Serial No.	
2: From Busbar Code	npha
3: To Busbar Code	nphb
4: Circuit No.	npckt
5: Magnitude of Tap Ratio	phsr
6: Magnitude of Angle	phang

Tenth Record: (SVS Data) (i4,i7,5f9.5,2i2)

1: Serial No.	
2: Busbar Code	nsv
3: Minimum B	qsmin

4: Maximum B	qsmax
5: Slope in Inductive Reactance Side	slopi
6: Slope in Capacitive Reactance Side	slopc
7: Magnitude of Voltage in pu	vset
8: Type of SVS (For the control parameters)	isvstyp
9: Status of SVS (ON)	isvssts

Eleventh Record: (DC SYSTEM Data if 'DC Flag' is ON)

This record consists of several sub-records:

First Sub-record: (2i5)

1: No. of DC Busbars	idc_busm
2: No. of DC Feeders	idc_lin

Second Sub-record: (For Each DC Busbar) i5,i6,2a4,f7.2,3i3

1: Serial No.	
2: DC Busbar Code	nc
3: DC Busbar Name	name
4: DC Busbar Nominal KV	nomkv
5: DC Busbar Type	dc_type
6: No. of Parallel Converter Link	shunt_nm
7: DC Busbar Status	b_status

Third Sub-record: (For Each Parallel Link) (i3,i5,3i6)

1: Parallel Link No.	
2: No. of Series Converters	unit_nm
3: AC Busbar Code	iac_codm
4: Positive Link/Negative Link (+1 or -1)	
5: Status of this Parallel Link	s_status

Fourth Sub-record: (For Each Converter) (i5,i6,2f8.3,f7.3,

f7.3,2i2)

First Record:

1: Serial No. of Converter	
2: AC Busbar Code	iac_codm
3: Rated Transformer Primary Voltage (KV)	py_vm
4: Rated Transformer Secondary Voltage (KV)	sy_vm
5: Commutation Resistance (in Ohm)	rc_dcm
6: Commutation Reactance (in Ohm)	x_dcm
7: Unit Control Mode	
8: Status of Converter	u_status

Second Record:

1: Minimum DC Voltage (in KV)	v_min
2: Maximum DC Voltage (in KV)	v_maxm
3: Magnitude of DC Voltage (in KV)	v_dcm
4: Minimum DC Power (MW)	dc_mipm
5: Maximum DC Power (MW)	dc_mapm
6: Magnitude of DC Power (MW)	power_im
7: Minimum DC Current Value (KAmp)	i_dc_minm
8: Maximum DC Current Value (KAmp)	i_dc_maxm
9: Magnitude of DC Current (KAmp)	i_dcm

Third Record:

1: Incremental Tap Step	tap_stpm
2: Minimum Tap Position	tap_minm
3: Maximum Tap Position	tap_maxm
4: Present Tap Position	tap_dcm
5: Minimum Firing Angle (in Degree)	th_minm
6: Maximum Firing Angle (in Degree)	th_maxm
7: Present Firing Angle (in Degree)	thetam

Fourth Record:

1: AC Blocking Voltage (KV)	acblkv
2: AC Unblocking Voltage (KV)	acublkv
3: Minimum Blocking Time (Sec)	rmnblktm
4: DC Bypass Voltage (KV)	dcbpsv
5: DC Unbypass Voltage (KV)	dcubpsv
6: Minimum Bypass Time (Sec.)	mnbpstm
7: Restart Voltage (KV)	rstvolt
8: Voltage Ramp Rate (KV/Sec)	vrmprt
9: Restart Current (KAmp)	rstcur
10: Current Ramp Rate (KAmp/Sec)	curmprt

Fifth Record: (VDCOL Characteristic)

1: V1	vdcolv1
2: C1	vdcolc1
3: V2	vdcolv2
4: C2	vdcolc2
5: V3	vdcolv3
6: C3	vdcolc3

Twelve-th Record: (DC Feeder Data)

1: Serial No.	line_no
2: From Busbar Code	ist_bus
3: To Busbar Code	ien_bus
4: Circuit No.	ncktdc
5: Resistance Value of the Feeder	r_dc
6: Status of DC Feeder	lndcsts

4.6 Generating System Data File Preparation

The data supplied in this Section generates the 'filename.pdg' data file.

There is only one Dialog Box for supplying all the data required for the 'filename.pdg' file.

4.6.1 Generating Plant Data

For getting the Dialog Box for supplying the generating plant data place the cursor on the 'Object Info' radio button and press the left mouse button. Then place the cursor on the generator symbol for which data are to be supplied and press the left mouse button. The Dialog Box that appears on the screen with all the default values is shown in Fig 4.12. In this Dialog Box there are 48 edit-able fields for each generator in the power plant. Additionally, there are two non-edit-able fields which show the current output of that particular generator. These values are available only after a load flow solution has been done.

First, you have to specify at the top of the box the number of generating units in the power plant. For doing this place the cursor in the box and click the left mouse. Then erase the default value by pressing the 'Backspace' key. Then type the required value and press the 'Enter/Return' key.

Then for each unit you have to supply these 48 sets of data. The details of data shown below correspond to those supplied through the Dialog box but are grouped in the way these are stored in the data file. All values, unless otherwise specified, are in per unit on 100 MVA base.

4.6.2 Functions of PushButton

There are six PushButtons at the bottom of the Dialog Box. Their functions are:

Quit When this button is pressed the Dialog Box is removed from the screen.

PowerDraw: Generation Plant Information

This Generation Plant is connected to RIHNDH
having Busbar Code 7011 and Zone 7

Specify the Number of Generators

Gen. No.	<input type="text" value="1"/>	Type	<input type="text" value="1"/>	Status	<input type="text" value="ON"/>	Availability	<input type="text" value="Yes"/>
Rated KV	<input type="text" value="11.0"/>	Pmax	<input type="text" value="50.00"/>	Pset	<input type="text" value="12.50"/>	STRRate	<input type="text" value="3.000"/>
Rated MVA	<input type="text" value="60.0"/>	Pmin	<input type="text" value="4.00"/>	K.E.	<input type="text" value="125.4"/>	Rm. Rat	<input type="text" value="2.000"/>
Rated PF	<input type="text" value="0.800"/>	Qmax	<input type="text" value="7.50"/>	H	<input type="text" value="2.700"/>	Sg1.0	<input type="text" value="0.150"/>
SCR	<input type="text" value="0.80"/>	Qmin	<input type="text" value="-5.00"/>	Efl	<input type="text" value="2.500"/>	Sg1.2	<input type="text" value="0.600"/>
Load D	<input type="text" value="0.00"/>	D.F.	<input type="text" value="1.00"/>	DUMMY	<input type="text" value="0.00"/>	Field R	<input type="text" value="0.380"/>
xd''	<input type="text" value="0.140"/>	td''	<input type="text" value="0.035"/>	xq''	<input type="text" value="0.220"/>	tq''	<input type="text" value="0.035"/>
xd'	<input type="text" value="0.229"/>	td'	<input type="text" value="0.882"/>	xq'	<input type="text" value="0.490"/>	tq'	<input type="text" value="0.534"/>
xd	<input type="text" value="1.950"/>	tdo''	<input type="text" value="0.050"/>	xq	<input type="text" value="1.800"/>	tqo''	<input type="text" value="0.100"/>
ra	<input type="text" value="0.010"/>	tdo'	<input type="text" value="6.500"/>	x1	<input type="text" value="0.100"/>	tqo'	<input type="text" value="0.500"/>
EXC. Type	<input type="text" value="1"/>	STAB. Type	<input type="text" value="1"/>	OV. Type	<input type="text" value="1"/>	CC Type	<input type="text" value="1"/>
Status	<input type="text" value="OFF"/>	Status	<input type="text" value="OFF"/>	Mode	<input type="text" value="0"/>	OP. Ch.	<input type="text" value="0"/>

Current Generating Quantity of Generator No. 1 is
Real Power (MW) Reactive Power (MVAR)

Quit Save Delete Prev Next Help

Figure 4.12: The Generator Information Window

Save This button is to used for saving the current content in the Dialog Box. This means that after supplying data for every converter or inverter the Save button has to be pressed.

Delete This button is to used for deleting the current content of the Dialog Box.

Prev When this button is pressed the last set of data are brought into the Dialog Box in place of the current data.

Next This button is to used for bringing the next set of data, if any, into the Dialog Box in place of the current values.

Help Pressing the Help button brings the Help message into the screen in a separate window.

4.6.3 Format Structure of .pdg File

After all the data are supplied according to the procedure as explained above, the GUI rearranges the data and writes them into the 'Filename.pdg' file according to a pre-defined format structure.

The format structure of the entire 'filename.pdg' file is given below:

First Record: (Five Fields)

- 1: Serial No. of the Station ..(generated by GUI)
- 2: Busbar Code Not edit-able
- 3: No. of Generators To be specified
- 4: Zone No Not edit-able
- 5: Status of the plant ON(default)/OFF

Second Record: (Five Fields)

- 1: Serial No. of Generator ..(generated by GUI)
- 2: Not in the dialog box but generated by GUI
- 3: Type of Generator 0/1/2/3

```

        Fossil thermal  = 0
        Hydro           = 1
        Gas Turbine     = 2
        Nuclear         = 3
4: Status of this Generator .... ON(default)/OFF
5: Availability ..... Yes/No(default Yes)

```

Third Record: (Ten Fields)

```

1: Rated KV
2: Rated MVA
3: Rated Power Factor
4: Short Circuit Ratio
5: Maximum Power Limit          (MW)
6: Minimum Power Limit          (MW)
7: Maximum Reactive Power Limit (MVAR)
8: Minimum Reactive Power Limit (MVAR)
9: PSet
10: De-rating Factor

```

Fourth Record: (Ten Records)

```

1: Ramping Rate
2: Short Time Ramping Rate
3: Machine Saturation at 1.0 pu voltage      (pu)
4: Machine Saturation at 1.2 pu voltage      (pu)
5: Machine Full load excitation              (pu)
6: Kinetic Energy rated speed in             MW.s
7: Inertia Constant
8: Negative-sequence Resistance              (pu)
9: Negative-sequence Reactance              (pu)
10: Zero-sequence Reactance                  (pu)

```

Fifth Record: (Ten Fields)

- 1: Unsaturated d-axis sub-transient Reactance $X_{d''}$ (pu)
- 2: Unsaturated d-axis transient Reactance $X_{d'}$ (pu)
- 3: Unsaturated d-axis synchronous Reactance X_d (pu)
- 4: Unsaturated q-axis sub-transient Reactance $X_{q''}$ (pu)
- 5: Unsaturated q-axis transient Reactance $X_{q'}$ (pu)
- 6: Unsaturated q-axis synchronous Reactance X_q (pu)
- 7: Leakage Reactance or Potier Reactance x_l (pu)
- 8: Armature Resistance (pu)
- 9: Machine Field Resistance (Ohm)
- 10: Machine load damping Coefficient

Sixth Record: (Nine Fields)

- 1: d-axis sub-transient short circuit time constant $t_{d''}$ (s)
- 2: d-axis transient short circuit time constant $t_{d'}$ (s)
- 3: d-axis sub-transient open circuit time constant $t_{d0''}$ (s)
- 4: d-axis transient open circuit time constant $t_{d0'}$ (s)
- 5: q-axis sub-transient short circuit time constant $t_{q''}$ (s)
- 6: q-axis transient short circuit time constant $t_{q'}$ (s)
- 7: q-axis sub-transient open circuit time constant $t_{q0''}$ (s)
- 8: q-axis transient open circuit time constant $t_{q0'}$ (s)
- 9: Armature Time Constant t_a (s)

Seventh Record: (Eight Fields)

- 1: Type of Exciter
- 2: Status of Exciter (ON/OFF(default))
- 3: Type of Governor-Boiler
- 4: Mode of Governor
- 5: Type of Stabilizer
- 6: Status of Stabilizer (ON/OFF(default))
- 7: Type of Cost Curve

8: Operating Characteristic (0/1)

Eighth Record: (six Fields) (Operating Characteristic Points)

1: P1

2: Q1

3: P2

4: Q2

5: P3

6: Q3

Ninth Record: (Six Fields)

1: P4

2: Q4

3: P5

4: Q5

5: P6

6: Q6

Tenth Record: (Two Fields)

1: Real Power Generation

2: Reactive Power Generation

After supplying the data press the 'OK' button at the bottom left corner. If there are more than one generator in the plant, press the 'Next' button for supplying the data for the second generator. After data for all the generators have been supplied, press the 'Save' button followed by 'OK' button.

4.6.4 Range of Values for Generating Plants

Base Voltage (KV) Upto 2 places after decimal
This is rated terminal

	voltage of the generator
Droop Setting	This is per unit frequency required by the governor to change output of the machine from zero to 100%.Upto 4 places after decimal
Inertia Constant	This is in Mega Joules per MVA of the machine rating. Upto 4 places after decimal
Ramping Rate	MW per minute. upto 4 places after decimal
De-rating Factor	Effective rating of the machine in per unit. Upto 4 places after decimal
Generator Capacity (MVA) ..	Upto 2 places after decimal
Pset	This is in per cent of MW capacity of the machine. upto 2 places after decimal

4.7 A Drawing Exercise

In this Section the process of development of a single line diagram of a simple power system using all that have been mentioned in this and the last Chapters will be illustrated. Let us assume that the following sets of system data are

available for drawing purposes:

System Description Data

This is a 8-bus 7 line test system data

System Summary Data

nb	nl	ntr	nvc	ns	nph	nsvs	nsb	pbase	kmax	epsln	nfdc
8	7	4	0	1	1	1	1001	100.00	10	0.00010	1

Busbar Data

bc	bn	z	vkb	pg	qg	pl	ql	vp	d
1001	Bus-1	1	0.00	0.000	0.000	0.000	0.000	1.0000	0.000
1007	Bus-7	1	0.00	0.000	0.000	0.000	0.000	1.0000	0.000
1102	Bus-2	1	132.00	0.000	0.000	0.000	0.000	1.0000	0.000
1108	Bus-8	1	132.00	0.000	0.000	0.000	0.000	1.0000	0.000
1205	Bus-5	1	220.00	0.000	0.000	0.000	0.000	1.0000	0.000
1206	Bus-6	1	220.00	0.000	0.000	0.000	0.000	1.0000	0.000
1403	Bus-3	1	400.00	0.000	0.000	0.000	0.000	1.0000	0.000
1404	Bus-4	1	400.00	0.000	0.000	0.000	0.000	1.0000	0.000

Transmission Line Data

S	F	T	c	r	X	b	Cap	yf	yt	
1	f	1205	1206	1	0.01000	0.10000	0.00000	100.00	0.00000	0.00000
2	f	1403	1404	1	0.01000	0.10000	0.00000	100.00	0.00000	0.00000
3	f	1102	1108	1	0.01000	0.10000	0.00000	100.00	0.00000	0.00000

Transformer Data

S	F	T	C	r	X	C	Tst	Tm	TM	T	TR
---	---	---	---	---	---	---	-----	----	----	---	----

```

4 x 1403 1102 1 0.01000 0.10000 100.0 1.250 -8 8 0 1.00000 0.000
5 x 1205 1404 1 0.01000 0.10000 100.0 1.250 -8 8 0 1.00000 0.000
6 x 1007 1206 1 0.01000 0.10000 100.0 1.250 -8 8 0 1.00000 0.000
7 x 1102 1001 1 0.01000 0.10000 100.0 1.250 -8 8 0 1.00000 0.000

```

Where

```

S ..... symbol, f= feeder; x= transformer
F ..... From Bus
T ..... To   Bus
r ..... Line resistance
X ..... Line reactance
b ..... Line Charging admittance
Cap ... MVA Capacity of the line/ transformer
yf .... From-bus end line reactor admittance
yt .... To-bus end line reactor admittance
R ..... Transformer tap ratio

```

P-V Bus Data

```

B  Qmn   Qmx   Pmx   Pmn   Vsh

1  5 -30.0 100.0 150.0  30.0   1.000

```

Where

```

B ..... Bus Number
Qmn ... Minimum reactive power limit
Qmx ... Maximum reactive power limit
Pmx ... Maximum active power limit
Pmn ... Minimum active power limit
Vsh ... Scheduled voltage

```

Shunt Data

	B	G	b
1 3	0.00000	0.50000	

Where

B Bus where reactor/capacitor attached
 G Conductance(in p.u.)
 b Admittance(in p.u.)

With these data it is required to draw the single line diagram and also to generate the necessary data file. Since this is a small system probably a sketch is not necessary. The system has 5 busbars, 3 feeders and 2 transformers. Bus 1 is the Slack bus and Bus 2 is a P-V bus. Since the voltage levels of busbars are different, different colours are to be used. Let us now start the drawing process. The final single line diagram is shown in FIG. 4.13

4.7.1 Drawing Steps

The steps to be followed for drawing the single line diagram according to what has been described in the last Chapter are summarized here.

- Step 1 Input the command 'powerdraw'
- Step 2 Using the option 'New' of the 'File' Menu input a new file name. Immediately 'file name.pdr' appears on the 'Title Bar'.
- Step 3 Using the 'Utility' Menu get the 'Objects' Pad and the 'Colour' palette and place them at the bottom of the window.

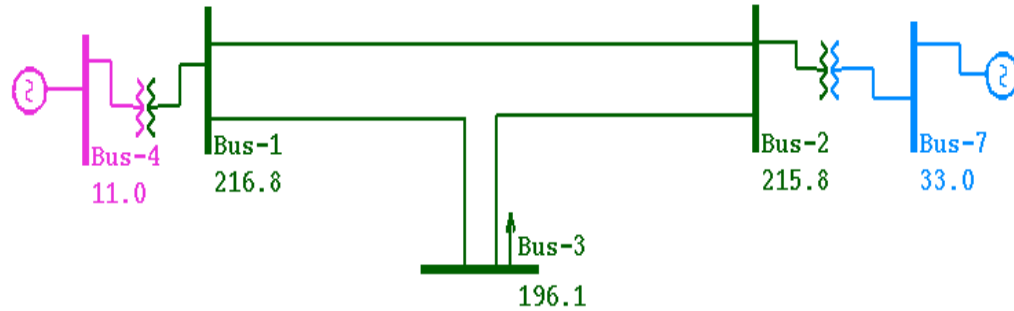


FIG. 2.1 A SAMPLE POWER SYSTEM

Figure 4.13: A Sample Power System

- Step 4 Activate the 'Busbar' status button and then click the green colour box in the colour palette.
- Step 5 Draw 3 green busbars as shown in the diagram. The busbars are numbered in the same sequence as they are drawn.
- Step 6 Activate the 'Line' status button and draw the 3 feeders.
- Step 7 From the 'Objects' pad bring the 2 transformer icons and put them in the proper place. Rotate the transformer icons using the 'Tools' Menu.
- Step 8 Put appropriate colours on the windings of the

transformers by dragging the colour from the colour palette while keeping the middle mouse button pressed.

- Step 9 Join the green windings of the transformer to the corresponding busbars by drawing line-segments from the hotspots of the icons.
- step 10 Activate the 'Busbar' status button and draw the the two generating station busbars with appropriate colours.
- Step 11 Join the other two windings to the generating station busbars with line-segments drawn from the icon-hotspots.
- Step 12 From the 'Object' pad bring the generator icon place them at the appropriate place. Then using the 'Tools' Menu rotate them.
- Step 13 Connect the generator icons to the generating station busbars with line segments drawn from the generator-icon hotspots.

4.7.2 Supplying Data

Following the procedure as explained in this chapter and using the appropriate Dialog Boxes data can be supplied for the busbars, the P-V busbars, the lines and transformers. After accepting these data the GUI generates THREE data files:

<filename.pdr> ... For the graphic drawing

<filename.pdt> ... System data file

<filename.pdg> ... Generator data file

where

<filename> is the inputted file name.

As an example the last two files are shown here

\begin{verbatim}

This is a Powerdraw DATA File.

```

      5      5 1004      1      10      2      1      0.00010      100.0 0      0      0
1004 Bus-4 1 11.00      0.00      0.00      0.00      0.00      1.00      0.00 1 1
1007 Bus-7 1 33.00 100.00 50.00      0.00      0.00      1.00      0.00 2 1
1201 Bus-1 1 220.00      0.00      0.00      0.00      0.00      1.00      0.00 3 1
1202 Bus-2 1 220.00      0.00      0.00      0.00      0.00      1.00      0.00 3 1
1203 Bus-3 1 220.00      0.00      0.00 250.00 100.00      1.00      0.00 3 1
  1 f 1201 1202 1 0.05000 0.120      0.200 200.00      0.00      0.00
  2 f 1201 1203 1 0.04000 0.100      0.150 200.00      0.00      0.00
  3 f 1203 1202 1 0.04000 0.100      0.150 300.00      0.00      0.00
  4 x 1202 1007 1 0.00000 0.050      0.000 100.00      1.00
  5 x 1004 1201 1 0.00000 0.050      0.000 100.00      1.00
  1 1007 -30.000 100.000 150.000 30.0      1.000      1.050      0.950

```

```
200.00000  50.00000 150.00000 -50.00000
  1 1203   0.00000   0.50000
```

where the first row has the following sequence of entries:

nb	Number of busbars
nl	Number of lines+transformers
nsb	Slack busbar code number
nvc	Number of P-V busbars
kmax	Maximum number of iteration permissible
ntr	Number of transformers
ns	Number of shunt loads
epsln	Convergence limit
pbase	Per Unit base
nph	Number of Phase shifting transformers
nsv	Number of Static VAR systems
ndc	HVDC system present or not: 0= not present 1= present

Generator data file:

Genedat File Specifies the Total Information of Generating Stations And detail parameters of each generator of every Generating Station.

\begin{verbatim}

Format Of This File:

First Record: (One Field)

Specifies Total No. Of Generating Stations.

Specify the Number of Generators .. two digit maximum

After the number of generator value is given you have to supply the following 25 values for each generator:

The Format Structure of .pdt File

For Each Generating Station: (Nine Records)

2

1 1001 1 1 1

1 100101 1 1 1

13.80 25.00 0.800 0.8000 20.00 5.00 15.00 -10.00 20.00 2.200

0.20 0.25 0.2790 0.8860 2.500 125.4 5.000 0.0082 0.1200 0.0215

0.120 0.232 1.250 0.120 0.715 1.220 0.134 0.0014 0.375 2.000

0.035 0.882 0.0590 4.750 0.035 0.534 0.210 1.500 0.177

1 0 1 0 1 0 1 0

0.00 0.00 0.00 0.00 0.00 0.00

0.00 0.00 0.00 0.00 0.00 0.00

20.00 0.00

2 1007 1 1 1

1 100701 1 1 1

13.80 25.00 0.800 0.8000 20.00 5.00 15.00 -10.00 20.00 2.200

0.20 0.25 0.2790 0.8860 2.500 125.4 5.000 0.0082 0.1200 0.0215

0.120 0.232 1.250 0.120 0.715 1.220 0.134 0.0014 0.375 2.000

0.035 0.882 0.0590 4.750 0.035 0.534 0.210 1.500 0.177

1 0 1 0 1 0 1 0

0.00 0.00 0.00 0.00 0.00 0.00

0.00 0.00 0.00 0.00 0.00 0.00

20.00 0.00

where the sequence of entries is as explained above.

The listing of the NREB.pdt and NREB.pdg is given in APPENDIX B.

Appendix A

Error and Warning Messages

A.1 ERROR MESSAGES

Error Code	Error Message
------------	---------------

<code>/* 9001 */ {"Operation Not Permitted."}</code>	You may not have permission to execute this command.
--	--

<code>/* 9002 */ {"No Such File or Directory"}</code>	The file or directory you want to access is not in your current path.
---	---

<code>/* 9003 */ {"No such process"}</code>	The process that you are trying to call does not exist in the current directory.
---	--

<code>/* 9004 */ {""}</code>	
------------------------------	--

<code>/* 9005 */ {"Error in Fixing Busbar Code"}</code>	The inputted Busbar code is not according to the specified format. Read the relevant part of
---	--

Operator's Manual.

/* 9006 */ {"Invalid Character !!"}
The inputted character is not according to
specified format. Read the relevant part of
Operator's Manual.

/* 9007 */ {"Arg list too long"}
The length of the inputted argument is longer
than the specified format.

/* 9008 */ {"Exec format error"}
/* 9009 */ {"Invalid Busbar Code."}
The inputted Busbar code does not conform to the
norms followed for forming Busbar code. Read the
relevant part of Operator's Manual.

/* 9010 */ {"Duplication of Busbar Code."}
The inputted Busbar code already exists and
therefore it is not accepted.

/* 9011 */ {"Unable to Save the Current Contents."}
This may be due to:
Permission may not be there to write
Not enough space in the hard disc

/* 9012 */ {"Not enough space"}
Not enough space in the hard disc

/* 9013 */ {"Permission denied to Open"}
This may be due to:

There may not be permission to open
There can be format mismatch

```
/* 9014 */ {"Cannot Load the Drawing Contents."}
/* 9015 */ {"Advised to Change the Busbar Code."}
/* 9016 */ {""}
/* 9017 */ {"File exists !!"}
/* 9018 */ {""}
/* 9019 */ {""}
/* 9020 */ {"Not a directory"}
/* 9021 */ {"Error in Retrieving Directory Name"}
/* 9022 */ {"Could not Create Accessory Files."}
/* 9023 */ {""}
/* 9024 */ {""}
/* 9025 */ {""}
/* 9026 */ {"Text file busy"}
/* 9027 */ {"File too large To Load"}
/* 9028 */ {""},
/* 9029 */ {""},
/* 9030 */ {"File Opened Read only."},
/* 9031 */ {"Writing Error for Busbar Info."},
/* 9032 */ {"Writing Error for Feeder Info."},
/* 9033 */ {"Writing Error in Transformer Info."},
/* 9034 */ {"Writing Error in Voltage Control Busbar Info."},
/* 9035 */ {"Writing Error in Slack Busbar Info."},
/* 9036 */ {"Writing Error in Shunt Load Info."},
/* 9037 */ {"Writing Error in Phase Shifter Info."},
/* 9038 */ {"Writing Error in SVS info."},
/* 9039 */ {"Writing Error in DC System Information."},
/* 9040 */ {""},
/* 9041 */ {""},
```

```
/* 9042 */ {},
/* 9043 */ {},
/* 9044 */ {},
/* 9045 */ {},
/* 9046 */ {"Mismatch in Slack Busbar Code Information."},
/* 9047 */ {"Not an Appropriate Data File"},
/* 9048 */ {"Not an Appropriate PowerDraw File"},
/* 9049 */ {"Could not get Corresponding data file"},
/* 9050 */ {"Could not get Corresponding Generator Info File"},
/* 9051 */ {"Format Mismatch in the PowerDraw File"},
/* 9052 */ {"Error in Opening the File"},
/* 9053 */ {"Error in reading No. of Objects"},
/* 9054 */ {"Error in reading No. of Line Segments"},
/* 9055 */ {"Error in reading No. of Texts"},
/* 9056 */ {"Error in Reading No. of Busbars"},
/* 9057 */ {"Error in Reading No. of Feeder Structures"},
/* 9058 */ {"Error in Reading No. of Generator Structures"},
/* 9059 */ {"Error in Reading No. of Transformer Structures"},
/* 9060 */ {"Error in Reading No. of SVS Structures"},
/* 9061 */ {"Reading Error in No. of Generators"},
/* 9062 */ {"Reading Error in Object Component"},
/* 9063 */ {"Reading Error in Line Segment"},
/* 9064 */ {"Reading Error in Text Component"},
/* 9065 */ {"Reading Error in Busbar Component"},
/* 9066 */ {"Reading Error in Transformer Component"},
/* 9067 */ {"Reading Error in Feeder Component"},
/* 9068 */ {"Reading Error in Generator"},
/* 9069 */ {"Reading Error in SVS Component"},
/* 9070 */ {"Reading Error in Master Record in Data File"},
/* 9071 */ {"Reading Error in Busbar Record in Data File"},
/* 9072 */ {"Reading Error in Feeder Record in Data File"},
```

```
/* 9073 */ {"Reading Error in Transformer Rec/* 9088 */ {""},
/* 9074 */ {"Reading Error in Voltage-Control Busbar Record in Data File"},
/* 9075 */ {"Reading Error in Slack Bus Record in Data File"},
/* 9076 */ {"Reading Error in Shunt Load Record in Data File"},
/* 9077 */ {"Reading Error in Phase Shifter Record in Data File"},
/* 9078 */ {"Reading Error in SVS Record in Data File"},
/* 9079 */ {"Reading Error in DC System in Data File"},
/* 9080 */ {"Reading Error in Generator Data File."},
/* 9081 */ {"Reading inconsistency in Master Record of Data File."},
/* 9082 */ {"Reading inconsistency in Busbar Information Records."},
/* 9083 */ {"Reading inconsistency in Feeder Information Records."},
/* 9084 */ {"Reading inconsistency in PV Busbar Records"},
/* 9085 */ {""},
/* 9086 */ {""},
/* 9087 */ {""},
/* 9088 */ {""},
/* 9089 */ {""},
/* 9090 */ {"Reading inconsistency in GenData File Records"},
/* 9091 */ {"Busbar Code Specified for Slack Bus does not exist !!!"},
/* 9092 */ {""},
/* 9093 */ {""},
/* 9094 */ {""},
/* 9095 */ {""},
/* 9096 */ {""},
/* 9097 */ {""},
/* 9098 */ {""},
/* 9099 */ {""},
/* 9100 */ {""},
```

A.2 WARNING MESSAGES

Warning Code	Warning Message
--------------	-----------------

/* 9101 */	{"file opened read only."},
/* 9108: */	Click on a Feeder and Press Return.

Appendix B

THE DATA FILES

B.1 Network System Data File

kid[5]

1 System description data:
This is a Powerdraw DATA File.

2 System Summery Data:
391 773 163 72 137 0 1 7005 100.00 38 0.00010 1

Busbar Data:

1001	LWRJH	1	11.00	80.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
1005	UPRSND	1	11.00	10.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
1006	HEHAM	1	11.00	13.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
1104	LRJHLM	1	132.00	0.000	0.000	24.850	12.070	1.0000	0.000	3	2	1	1
1105	PATAN1	1	132.00	0.000	0.000	48.990	23.430	1.0000	0.000	3	2	1	1
1106	ZAINK1	1	132.00	0.000	0.000	5.680	2.840	1.0000	0.000	3	2	1	1
1107	CHMSH1	1	132.00	0.000	0.000	26.980	12.780	1.0000	0.000	3	2	1	1
1108	UDMPR1	1	132.00	0.000	0.000	38.340	18.460	1.0000	0.000	3	2	1	1
1117	SZGPR1	1	132.00	0.000	0.000	44.730	22.010	1.0000	0.000	3	2	1	1
1118	BEMINA	1	132.00	0.000	0.000	31.240	14.910	1.0000	0.000	3	2	1	1
1119	HABAK1	1	132.00	0.000	0.000	31.240	14.910	1.0000	0.000	3	2	1	1
1120	RWALPR	1	132.00	0.000	0.000	26.980	12.780	1.0000	0.000	3	2	1	1
1129	SRNGR1	1	132.00	0.000	0.000	57.510	28.400	1.0000	0.000	3	2	1	1
1132	JJRSTL	1	132.00	0.000	0.000	16.330	7.810	1.0000	0.000	3	2	1	1
1133	JANIPR	1	132.00	0.000	0.000	41.890	20.590	1.0000	0.000	3	2	1	1
1134	NCHANL	1	132.00	0.000	0.000	41.890	20.590	1.0000	0.000	3	2	1	1
1135	MRWSHB	1	132.00	0.000	0.000	17.040	8.520	1.0000	0.000	3	2	1	1
1136	BBHMNA	1	132.00	0.000	0.000	44.710	22.010	1.0000	0.000	3	2	1	1

1137	JAMMU1	1	132.00	0.000	0.000	41.890	18.460	1.0000	0.000	3	2	1	1
1138	SIDHRA	1	132.00	0.000	0.000	17.040	8.520	1.0000	0.000	3	2	1	1
1139	SAMVA	1	132.00	0.000	0.000	8.520	4.260	1.0000	0.000	3	2	1	1
1140	HRNGR	1	132.00	0.000	0.000	46.150	22.010	1.0000	0.000	3	2	1	1
1141	BURN1	1	132.00	0.000	0.000	10.650	4.970	1.0000	0.000	3	2	1	1
1142	AKHNR	1	132.00	0.000	0.000	9.940	4.970	1.0000	0.000	3	2	1	1
1143	KLIAKT	1	132.00	0.000	0.000	15.620	7.810	1.0000	0.000	3	2	1	1
1144	BATOT	1	132.00	0.000	0.000	10.650	4.970	1.0000	0.000	3	2	1	1
1145	REASI	1	132.00	0.000	0.000	6.390	2.840	1.0000	0.000	3	2	1	1
1203	UDMPR2	1	220.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
1204	MRNSHB	1	220.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
1205	HRNGR2	1	220.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
1206	BURN	1	220.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
1207	ZNKTE	1	220.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
1228	JAMMU2	1	220.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
1229	SRNGR2	1	220.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
2001	PGWGG	2	11.00	150.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
2002	BHKRGR	2	11.00	400.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
2003	BKRLGA	2	11.00	200.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
2004	BKRLGB	2	11.00	150.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
2005	DEHRGA	2	11.00	300.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
2006	DEHRGB	2	11.00	300.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
2007	GNWGW1	2	11.00	20.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
2008	GNWGW2	2	11.00	20.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
2009	KOTLG1	2	11.00	20.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
2010	KOTLG2	2	11.00	20.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
2015	BHKRL6	2	66.00	0.000	0.000	16.220	9.730	1.0000	0.000	3	2	1	1
2216	BHKRL2	2	220.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
2217	BHKRR2	2	220.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
2218	DEHAR2	2	220.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
2226	GNWGL2	2	220.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
2419	DEHAR4	2	400.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
3004	UBDCG	3	11.00	60.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
3005	APSHBG	3	11.00	75.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
3006	MUKERG	3	11.00	120.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
3007	ROPARG	3	15.75	430.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
3008	BHTNDG	3	11.00	400.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
3009	JGNWGRG	3	11.00	65.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
3011	ROPAR3	3	15.75	710.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
3111	BANGA1	3	132.00	0.000	0.000	30.010	17.840	1.0000	0.000	3	2	1	1
3112	GORYA1	3	132.00	0.000	0.000	65.690	39.740	1.0000	0.000	3	2	1	1
3113	PAGHWR	3	132.00	0.000	0.000	30.820	18.650	1.0000	0.000	3	2	1	1
3114	MOGA1	3	132.00	0.000	0.000	171.930	103.000	1.0000	0.000	3	2	1	1
3115	JGNWRN1	3	132.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
3116	HOSPR1	3	132.00	0.000	0.000	53.530	32.440	1.0000	0.000	3	2	1	1
3117	BHGPR1	3	132.00	0.000	0.000	35.680	21.090	1.0000	0.000	3	2	1	1
3118	MUKER1	3	132.00	0.000	0.000	76.230	45.420	1.0000	0.000	3	2	1	1
3119	UBDC	3	132.00	0.000	0.000	110.300	66.500	1.0000	0.000	3	2	1	1

3121	BATAL1	3	132.00	0.000	0.000	101.380	60.830	1.0000	0.000	3	2	1	1
3129	JLWDR1	3	132.00	0.000	0.000	117.590	70.560	1.0000	0.000	3	2	1	1
3133	ROPAR1	3	132.00	0.000	0.000	98.940	59.200	1.0000	0.000	3	2	1	1
3135	GNGWL1	3	132.00	0.000	0.000	21.900	12.980	1.0000	0.000	3	2	1	1
3139	MUKTSR	3	132.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
3144	LDINA1	3	132.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
3148	NAWSHR	3	132.00	0.000	0.000	39.740	24.330	1.0000	0.000	3	2	1	1
3149	APSHB1	3	132.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
3210	HUMBR2	3	220.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
3211	GORYA2	3	220.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
3212	JGNGR2	3	220.00	0.000	0.000	64.070	38.930	1.0000	0.000	3	2	1	1
3213	MHLPR2	3	220.00	0.000	0.000	23.520	14.600	1.0000	0.000	3	2	1	1
3214	PGWG	3	220.00	0.000	0.000	8.110	6.490	1.0000	0.000	3	2	1	1
3217	LDINA2	3	220.00	0.000	0.000	231.950	139.490	1.0000	0.000	3	2	1	1
3218	SGRR2	3	220.00	0.000	0.000	97.320	58.390	1.0000	0.000	3	2	1	1
3219	JLWDRB	3	220.00	0.000	0.000	32.440	19.460	1.0000	0.000	3	2	1	1
3220	SARWA	3	220.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
3222	BATAL2	3	220.00	0.000	0.000	39.740	24.330	1.0000	0.000	3	2	1	1
3224	AMRTS2	3	220.00	0.000	0.000	115.970	69.750	1.0000	0.000	3	2	1	1
3226	MOGA2	3	220.00	0.000	0.000	145.980	87.590	1.0000	0.000	3	2	1	1
3227	PATTI2	3	220.00	0.000	0.000	171.120	103.000	1.0000	0.000	3	2	1	1
3228	DASUA	3	220.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
3229	RAJPR2	3	220.00	0.000	0.000	98.000	60.000	1.0000	0.000	3	2	1	1
3230	JLWDRP	3	220.00	0.000	0.000	141.930	85.160	1.0000	0.000	3	2	1	1
3231	KTKPR2	3	220.00	0.000	0.000	25.140	14.600	1.0000	0.000	3	2	1	1
3232	ROPAR2	3	220.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
3236	GOBIN2	3	220.00	0.000	0.000	164.630	98.940	1.0000	0.000	3	2	1	1
3237	LLTKLN	3	220.00	0.000	0.000	115.160	68.940	1.0000	0.000	3	2	1	1
3238	FATGR2	3	220.00	0.000	0.000	53.530	32.440	1.0000	0.000	3	2	1	1
3239	MUKTSR	3	220.00	0.000	0.000	91.640	55.150	1.0000	0.000	3	2	1	1
3240	SLTWPR	3	220.00	0.000	0.000	34.870	21.090	1.0000	0.000	3	2	1	1
3242	PATIL2	3	220.00	0.000	0.000	107.860	64.880	1.0000	0.000	3	2	1	1
3243	MLRKT2	3	220.00	0.000	0.000	153.280	92.450	1.0000	0.000	3	2	1	1
3246	BRNLA2	3	220.00	0.000	0.000	73.800	44.610	1.0000	0.000	3	2	1	1
3247	BHTWD2	3	220.00	0.000	0.000	157.330	94.080	1.0000	0.000	3	2	1	1
3250	MOHALI	3	220.00	0.000	0.000	171.120	103.000	1.0000	0.000	3	2	1	1
4001	PHIPTG	4	15.75	470.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
4002	FARIDG	4	11.00	120.000	0.000	0.000	-70.000	1.0000	0.000	3	1	1	1
4003	ABDLPR	4	11.00	30.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
4106	ABDLP1	4	132.00	0.000	0.000	41.130	25.590	1.0000	0.000	3	2	1	1
4120	HISARB	4	132.00	0.000	0.000	116.080	72.210	1.0000	0.000	3	2	1	1
4122	SIRSA1	4	132.00	0.000	0.000	57.580	35.650	1.0000	0.000	3	2	1	1
4201	PHIPTS	4	220.00	0.000	0.000	100.550	62.150	1.0000	0.000	3	2	1	1
4202	ABDLPB	4	220.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
4204	PWHKL2	4	220.00	0.000	0.000	50.270	31.080	1.0000	0.000	3	2	1	1
4205	SHABD2	4	220.00	0.000	0.000	42.960	26.510	1.0000	0.000	3	2	1	1
4207	ABDLP2	4	220.00	0.000	0.000	86.830	53.930	1.0000	0.000	3	2	1	1
4208	PIPLI2	4	220.00	0.000	0.000	88.660	54.840	1.0000	0.000	3	2	1	1

4211	PNIPTW	4	220.00	0.000	0.000	219.370	136.180	1.0000	0.000	3	2	1	1
4212	AMBLA2	4	220.00	0.000	0.000	41.130	25.590	1.0000	0.000	3	2	1	1
4213	REWR12	4	220.00	0.000	0.000	45.700	28.330	1.0000	0.000	3	2	1	1
4214	NRNAL2	4	220.00	0.000	0.000	86.830	53.930	1.0000	0.000	3	2	1	1
4215	NRWNA2	4	220.00	0.000	0.000	78.610	48.440	1.0000	0.000	3	2	1	1
4216	KATHL2	4	220.00	0.000	0.000	63.980	39.300	1.0000	0.000	3	2	1	1
4217	BHIWN2	4	220.00	0.000	0.000	42.960	26.510	1.0000	0.000	3	2	1	1
4218	GRGOW2	4	220.00	0.000	0.000	105.120	64.890	1.0000	0.000	3	2	1	1
4219	BLABGR	4	220.00	0.000	0.000	334.540	207.480	1.0000	0.000	3	2	1	1
4220	PALLA2	4	220.00	0.000	0.000	93.460	50.240	1.0000	0.000	3	2	1	1
4221	HISAR2	4	220.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
4222	ASHDMP	4	220.00	0.000	0.000	37.880	20.370	1.0000	0.000	3	2	1	1
4223	SIRSA2	4	220.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	2	1	1
4224	DADRI2	4	220.00	0.000	0.000	166.350	103.280	1.0000	0.000	3	2	1	1
4234	HISARH	4	220.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	2	1	1
4409	PNPT4	4	400.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
4410	BHIWN4	4	400.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
5001	IPSTG	5	13.80	200.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
5002	IPGAS	5	13.80	105.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
5003	RAJGHT	5	13.80	120.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
5004	WHRECG	5	11.00	90.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
5204	NREL2D	5	220.00	0.000	0.000	182.000	109.200	1.0000	0.000	3	2	1	1
5205	PTPNG2	5	220.00	0.000	0.000	157.000	103.400	1.0000	0.000	3	2	1	1
5206	IPST2	5	220.00	0.000	0.000	158.000	95.000	1.0000	0.000	3	2	1	1
5207	IPEXT2	5	220.00	0.000	0.000	53.000	30.000	1.0000	0.000	3	2	1	1
5208	OKHLA2	5	220.00	0.000	0.000	63.000	38.000	1.0000	0.000	3	2	1	1
5209	MHRLI2	5	220.00	0.000	0.000	231.000	139.000	1.0000	0.000	3	2	1	1
5210	NGARH2	5	220.00	0.000	0.000	237.000	141.000	1.0000	0.000	3	2	1	1
5211	VKUNJ2	5	220.00	0.000	0.000	50.000	30.000	1.0000	0.000	3	2	1	1
5212	MANDL2	5	220.00	0.000	0.000	88.000	54.000	1.0000	0.000	3	2	1	1
5213	BAWAN2	5	220.00	0.000	0.000	34.000	20.000	1.0000	0.000	3	2	1	1
5215	SBJMDI	5	220.00	0.000	0.000	51.000	31.000	1.0000	0.000	3	2	1	1
5216	SBAGH2	5	220.00	0.000	0.000	97.000	58.000	1.0000	0.000	3	2	1	1
5217	ROHINI	5	220.00	0.000	0.000	118.000	71.000	1.0000	0.000	3	2	1	1
5218	BURARI	5	220.00	0.000	0.000	143.000	86.000	1.0000	0.000	3	2	1	1
5219	PKSTRT	5	220.00	0.000	0.000	85.000	51.000	1.0000	0.000	3	2	1	1
5220	MRBAG2	5	220.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
5222	RHTKRD	5	220.00	0.000	0.000	91.000	54.000	1.0000	0.000	3	2	1	1
5223	SVIHR2	5	220.00	0.000	0.000	85.000	51.000	1.0000	0.000	3	2	1	1
5225	KGATE2	5	220.00	0.000	0.000	69.000	42.000	1.0000	0.000	3	2	1	1
5226	LODRD2	5	220.00	0.000	0.000	53.000	32.000	1.0000	0.000	3	2	1	1
5427	BAWANA	5	400.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
6001	KOTAG	6	11.00	180.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
6002	KOTA2G	6	15.75	580.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
6003	RPSGRG	6	11.00	46.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
6004	JSGRG	6	11.00	25.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
6005	MAHIG2	6	11.00	80.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
6006	GSAGRG	6	11.00	30.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1

6008	INJWR	6	11.00	100.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
6101	GSAGAR	6	132.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
6109	ALWAR1	6	132.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
6111	JAPUR1	6	132.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
6116	BHLWR1	6	132.00	0.000	0.000	51.130	30.360	1.0000	0.000	3	2	1	1
6118	BEWAR1	6	132.00	0.000	0.000	27.160	15.980	1.0000	0.000	3	2	1	1
6120	KOTA1	6	132.00	0.000	0.000	231.680	142.200	1.0000	0.000	3	2	1	1
6122	RPSGR1	6	132.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
6123	JSGR1	6	132.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
6124	UDPUR1	6	132.00	0.000	0.000	173.360	99.860	1.0000	0.000	3	2	1	1
6127	NMBRA1	6	132.00	0.000	0.000	71.900	43.140	1.0000	0.000	3	2	1	1
6129	CHTRG1	6	132.00	0.000	0.000	94.270	57.520	1.0000	0.000	3	2	1	1
6131	SIROH1	6	132.00	0.000	0.000	58.320	33.550	1.0000	0.000	3	2	1	1
6132	JDHPR1	6	132.00	0.000	0.000	135.810	81.480	1.0000	0.000	3	2	1	1
6151	MNDVR1	6	132.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
6152	SMDHPR	6	132.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
6153	HINDW1	6	132.00	0.000	0.000	51.930	29.560	1.0000	0.000	3	2	1	1
6154	BILRA1	6	132.00	0.000	0.000	43.940	25.560	1.0000	0.000	3	2	1	1
6159	SRTGR1	6	132.00	0.000	0.000	35.150	20.770	1.0000	0.000	3	2	1	1
6160	BNSWR1	6	132.00	0.000	0.000	29.560	16.780	1.0000	0.000	3	2	1	1
6201	BHIWD2	6	220.00	0.000	0.000	95.870	57.520	1.0000	0.000	3	2	1	1
6207	DAUSA2	6	220.00	0.000	0.000	47.140	23.970	1.0000	0.000	3	2	1	1
6208	RTWGR2	6	220.00	0.000	0.000	55.120	33.550	1.0000	0.000	3	2	1	1
6209	ALWAR2	6	220.00	0.000	0.000	174.160	104.650	1.0000	0.000	3	2	1	1
6210	BRTPR2	6	220.00	0.000	0.000	52.730	31.950	1.0000	0.000	3	2	1	1
6211	JAPUR2	6	220.00	0.000	0.000	224.490	135.010	1.0000	0.000	3	2	1	1
6212	RNGUSI	6	220.00	0.000	0.000	63.910	38.350	1.0000	0.000	3	2	1	1
6213	KETRI2	6	220.00	0.000	0.000	138.210	83.080	1.0000	0.000	3	2	1	1
6214	AJMER2	6	220.00	0.000	0.000	81.490	47.930	1.0000	0.000	3	2	1	1
6215	PHULR2	6	220.00	0.000	0.000	58.320	33.550	1.0000	0.000	3	2	1	1
6217	BHLWR2	6	220.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
6219	BEWAR2	6	220.00	0.000	0.000	40.740	23.970	1.0000	0.000	3	2	1	1
6221	KOTA2	6	220.00	0.000	0.000	69.500	43.140	1.0000	0.000	3	2	1	1
6225	UDPUR2	6	220.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
6226	NMBHR2	6	220.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
6228	CHTRG2	6	220.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
6230	SIROH2	6	220.00	0.000	0.000	41.540	24.770	1.0000	0.000	3	2	1	1
6233	JDHPR2	6	220.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
6255	SIKAR2	6	220.00	0.000	0.000	91.080	52.730	1.0000	0.000	3	2	1	1
6256	BIKWR2	6	220.00	0.000	0.000	39.150	23.970	1.0000	0.000	3	2	1	1
6257	SRTGR2	6	220.00	0.000	0.000	74.300	43.940	1.0000	0.000	3	2	1	1
6260	BNSWR2	6	220.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
6406	JAIPRR	6	400.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
7001	RMGGG	7	11.00	100.000	0.000	0.000	-60.000	1.0000	0.000	3	1	1	1
7002	CHILG	7	11.00	50.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
7003	PANKIG	7	11.00	170.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
7004	PRCHG	7	11.00	150.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
7005	HRDNGG	7	11.00	175.800	0.000	0.000	0.000	1.0000	0.000	1	1	1	1

7006	OBRAG	7	10.50	160.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
7007	OBRAG2	7	10.50	225.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
7008	OBRAH	7	11.00	30.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
7009	OBRAEG	7	15.75	800.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
7010	ANPRAB	7	15.75	900.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
7011	RIHNDH	7	11.00	75.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
7012	MNRBLG	7	11.00	25.000	0.000	0.000	-15.000	1.0000	0.000	3	1	1	1
7013	CHBROG	7	11.00	120.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
7017	TANDAG	7	13.80	350.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
7018	ANPRAG	7	21.00	450.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
7019	KODRIG	7	11.00	40.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
7020	DEKRWG	7	11.00	25.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
7021	KHARAG	7	11.00	40.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
7118	DHLPR1	7	132.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
7119	KUDRI1	7	132.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
7121	NHTUR1	7	132.00	0.000	0.000	18.430	9.760	1.0000	0.000	3	2	1	1
7123	DHKRW1	7	132.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
7124	RISHK1	7	132.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
7128	SHJNP1	7	132.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
7130	BERLI1	7	132.00	0.000	0.000	56.380	34.690	1.0000	0.000	3	2	1	1
7132	MAU1	7	132.00	0.000	0.000	146.370	87.820	1.0000	0.000	3	2	1	1
7133	SITPR1	7	132.00	0.000	0.000	89.990	54.210	1.0000	0.000	3	2	1	1
7135	LKNOW1	7	132.00	0.000	0.000	200.000	124.000	1.0000	0.000	3	2	1	1
7138	MURBD1	7	132.00	0.000	0.000	150.000	88.000	1.0000	0.000	3	2	1	1
7142	MERUT1	7	132.00	0.000	0.000	263.460	151.780	1.0000	0.000	3	2	1	1
7144	MRDNG1	7	132.00	0.000	0.000	200.000	120.000	1.0000	0.000	3	2	1	1
7147	SHMLI1	7	132.00	0.000	0.000	119.260	71.550	1.0000	0.000	3	2	1	1
7149	SHRNP1	7	132.00	0.000	0.000	42.280	26.020	1.0000	0.000	3	2	1	1
7150	AZMGR	7	132.00	0.000	0.000	124.680	74.810	1.0000	0.000	3	2	1	1
7151	MZFRN1	7	132.00	0.000	0.000	197.320	119.260	1.0000	0.000	3	2	1	1
7154	KURJA1	7	132.00	0.000	0.000	135.530	80.230	1.0000	0.000	3	2	1	1
7156	HRDGN1	7	132.00	0.000	0.000	131.190	78.060	1.0000	0.000	3	2	1	1
7158	AGRA1	7	132.00	0.000	0.000	251.530	151.780	1.0000	0.000	3	2	1	1
7164	PANKI1	7	132.00	0.000	0.000	305.740	184.300	1.0000	0.000	3	2	1	1
7169	OBRA1	7	132.00	0.000	0.000	29.270	16.260	1.0000	0.000	3	2	1	1
7170	OBRAH1	7	132.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
7173	ALBAD1	7	132.00	0.000	0.000	258.040	149.610	1.0000	0.000	3	2	1	1
7174	GZIPR1	7	132.00	0.000	0.000	52.000	32.000	1.0000	0.000	3	2	1	1
7176	FATPR1	7	132.00	0.000	0.000	86.740	52.040	1.0000	0.000	3	2	1	1
7178	MUGLS1	7	132.00	0.000	0.000	99.750	58.540	1.0000	0.000	3	2	1	1
7181	GRKPR1	7	132.00	0.000	0.000	118.180	71.550	1.0000	0.000	3	2	1	1
7183	SLTNP1	7	132.00	0.000	0.000	206.000	119.260	1.0000	0.000	3	2	1	1
7189	RIHND1	7	132.00	0.000	0.000	48.790	26.020	1.0000	0.000	3	2	1	1
7190	RBRTG1	7	132.00	0.000	0.000	23.850	14.090	1.0000	0.000	3	2	1	1
7191	RMGNG1	7	132.00	0.000	0.000	63.970	20.000	1.0000	0.000	3	2	1	1
7192	KSHPR1	7	132.00	0.000	0.000	131.000	79.000	1.0000	0.000	3	2	1	1
7193	RORKI1	7	132.00	0.000	0.000	71.560	41.180	1.0000	0.000	3	2	1	1
7194	HRDWR1	7	132.00	0.000	0.000	94.330	58.540	1.0000	0.000	3	2	1	1

7195	CHILL1	7	132.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
7196	DHRDW1	7	132.00	0.000	0.000	123.600	71.550	1.0000	0.000	3	2	1	1
7197	KULHL1	7	132.00	0.000	0.000	18.430	10.840	1.0000	0.000	3	2	1	1
7206	KUDRI2	7	132.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
7207	BARAT2	7	220.00	0.000	0.000	103.000	58.540	1.0000	0.000	3	2	1	1
7208	UNNAO2	7	220.00	0.000	0.000	112.000	70.000	1.0000	0.000	3	1	1	1
7209	RBRLI2	7	220.00	0.000	0.000	84.570	50.960	1.0000	0.000	3	2	1	1
7210	BANDA2	7	220.00	0.000	0.000	38.680	23.940	1.0000	0.000	3	2	1	1
7211	PHLPR2	7	220.00	0.000	0.000	75.890	45.530	1.0000	0.000	3	2	1	1
7212	ETAH2	7	220.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
7213	CHNHT2	7	220.00	0.000	0.000	81.320	47.700	1.0000	0.000	3	2	1	1
7214	NOIDA2	7	220.00	0.000	0.000	99.750	58.540	1.0000	0.000	3	2	1	1
7219	SHIBD2	7	220.00	0.000	0.000	124.310	77.350	1.0000	0.000	3	2	1	1
7220	KONDLI	7	220.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
7222	NHTUR2	7	220.00	0.000	0.000	133.360	86.730	1.0000	0.000	3	2	1	1
7225	RISHK2	7	220.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
7229	SHJWP2	7	220.00	0.000	0.000	53.130	32.520	1.0000	0.000	3	2	1	1
7231	BERLI2	7	220.00	0.000	0.000	92.160	54.210	1.0000	0.000	3	2	1	1
7234	SITPR2	7	220.00	0.000	0.000	129.020	78.060	1.0000	0.000	3	2	1	1
7236	LKNOW2	7	220.00	0.000	0.000	75.000	47.000	1.0000	0.000	3	1	1	1
7239	MURBD2	7	220.00	0.000	0.000	76.000	44.000	1.0000	0.000	3	1	1	1
7241	SIMBL2	7	220.00	0.000	0.000	93.240	56.380	1.0000	0.000	3	2	1	1
7243	MERUT2	7	220.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
7245	MRDNG2	7	220.00	0.000	0.000	70.000	40.000	1.0000	0.000	3	1	1	1
7248	SHMLI2	7	220.00	0.000	0.000	93.240	56.380	1.0000	0.000	3	2	1	1
7250	SHRNP2	7	220.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
7251	AGRAU2	7	220.00	0.000	0.000	50.000	31.000	1.0000	0.000	3	1	1	1
7252	MZFRW2	7	220.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
7255	KURJA2	7	220.00	0.000	0.000	58.550	34.690	1.0000	0.000	3	2	1	1
7257	HRDGN2	7	220.00	0.000	0.000	56.380	32.520	1.0000	0.000	3	2	1	1
7259	AGRA2	7	220.00	0.000	0.000	57.340	34.000	1.0000	0.000	3	2	1	1
7261	FRZBD2	7	220.00	0.000	0.000	53.130	32.520	1.0000	0.000	3	2	1	1
7262	MAINP2	7	220.00	0.000	0.000	228.770	137.690	1.0000	0.000	3	2	1	1
7263	PRCHA2	7	220.00	0.000	0.000	177.810	106.250	1.0000	0.000	3	2	1	1
7265	PANKI2	7	220.00	0.000	0.000	83.480	54.210	1.0000	0.000	3	2	1	1
7271	OBRA2	7	220.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
7274	ALHBD2	7	220.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
7277	FTEPR2	7	220.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
7279	MUGLS2	7	220.00	0.000	0.000	258.040	151.780	1.0000	0.000	3	2	1	1
7281	AZWGR2	7	220.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
7284	SLTWP2	7	220.00	0.000	0.000	130.000	79.000	1.0000	0.000	3	2	1	1
7286	TANDA2	7	220.00	0.000	0.000	50.000	34.000	1.0000	0.000	3	1	1	1
7287	BASTI2	7	220.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
7288	GRKPR2	7	220.00	0.000	0.000	103.000	58.540	1.0000	0.000	3	2	1	1
7298	MNRBL2	7	220.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
7299	CHIBR2	7	220.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
7407	UNNAO4	7	400.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
7426	RISHK4	7	400.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1

7427	GRKPR	7	400.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
7429	AGRAU4	7	400.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
7437	LKNOW4	7	400.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
7440	MURBD4	7	400.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
7446	MRDNG4	7	400.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
7466	PANKI4	7	400.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
7468	ANPRA4	7	400.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
7472	OBRA4	7	400.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
7480	MUGLS4	7	400.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
7482	AZMGR4	7	400.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
7485	SLTWP4	7	400.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
7498	MAU	7	400.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
8001	BDPRGA	8	10.50	200.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
8002	BDPRGB	8	15.75	250.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
8003	SNGLR1	8	15.75	900.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
8004	SINGLG	8	21.00	900.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
8006	AURYAG	8	11.50	300.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
8007	AURYAS	8	11.50	200.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
8008	ANTAG	8	10.50	200.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
8009	ANTAS	8	15.75	150.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
8010	NCRTP	8	16.50	780.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
8011	DADGAS	8	11.00	500.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
8012	DADGSS	8	11.00	280.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
8013	RIHWDG	8	21.00	900.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
8015	UNCHRG	8	15.75	750.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
8016	SALALG	8	11.00	225.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
8017	SIULG	8	11.00	100.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
8018	CHAMRAG	8	15.75	360.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
8019	TNKPRG	8	11.00	80.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
8020	URIG	8	11.00	300.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
8021	SALLG2	8	11.00	225.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
8022	RAPPG	8	21.00	300.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
8023	WAPPG	8	21.00	350.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
8201	WAGRA2	8	220.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
8202	KSNPR2	8	220.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
8203	SALAL	8	220.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
8205	SIUL2	8	220.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
8209	WAPP2	8	220.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
8210	RAPP2	8	220.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
8220	BLBGR2	8	220.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
8221	BTPP2	8	220.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
8228	FRDBD2	8	220.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
8229	TNKPR2	8	220.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
8231	KNPR2	8	220.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
8234	AURYA2	8	220.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
8235	NCRTP2	8	220.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
8236	ANTA2	8	220.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
8238	DADRI2	8	220.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1

8239	HISARP	8	220.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
8267	UNCHR2	8	220.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
8413	MOGA4	8	400.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
8414	HISAR4	8	400.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
8415	KSNPR4	8	400.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
8416	WAGRA	8	400.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
8417	URIH	8	400.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
8418	CHAMRA4	8	400.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
8419	BLBGR4	8	400.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
8422	AGRA4	8	400.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
8423	SNGLR4	8	400.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
8424	DADRI4	8	400.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
8425	MLRKT4	8	400.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
8426	AURYA4	8	400.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
8430	JAIPR4	8	400.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
8431	KNPRN4	8	400.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
8433	RIHND4	8	400.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
8435	MANDLA	8	400.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
8490	VNDACHL	8	400.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
9004	BHABAG	9	11.00	80.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
9005	BASSIG	9	11.00	48.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
9006	GIRIG	9	11.00	45.000	0.000	0.000	0.000	1.0000	0.000	2	1	1	1
9107	KHNR1	9	132.00	0.000	0.000	5.000	3.000	1.0000	0.000	3	2	1	1
9109	BASSI1	9	132.00	0.000	0.000	7.000	4.000	1.0000	0.000	3	2	1	1
9110	HAMPRI	9	132.00	0.000	0.000	38.000	22.000	1.0000	0.000	3	2	1	1
9111	KHGRA1	9	132.00	0.000	0.000	4.000	2.000	1.0000	0.000	3	2	1	1
9112	GIRI1	9	132.00	0.000	0.000	66.000	38.000	1.0000	0.000	3	2	1	1
9120	JESRE1	9	132.00	0.000	0.000	25.000	15.000	1.0000	0.000	3	2	1	1
9121	JUTOG1	9	132.00	0.000	0.000	68.000	41.000	1.0000	0.000	3	2	1	1
9122	SOLAW1	9	132.00	0.000	0.000	32.000	19.000	1.0000	0.000	3	2	1	1
9123	DEHRA1	9	132.00	0.000	0.000	24.000	14.000	1.0000	0.000	3	2	1	1
9124	GAGAL1	9	132.00	0.000	0.000	72.000	42.000	1.0000	0.000	3	2	1	1
9125	LARJI1	9	132.00	0.000	0.000	12.000	7.000	1.0000	0.000	3	2	1	1
9208	KHNR2	9	220.00	0.000	0.000	43.000	25.000	1.0000	0.000	3	2	1	1
9209	BHABA2	9	220.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
9210	GIRI2	9	220.00	0.000	0.000	0.000	0.000	1.0000	0.000	3	1	1	1
9220	JESRE2	9	220.00	0.000	0.000	13.000	7.000	1.0000	0.000	3	2	1	1

3 Transmission Line Data:

1	f	6213	6211	1	0.02040	0.11700	0.20510	200.0	0.00000	0.00000	1
2	f	6214	6219	1	0.00850	0.04880	0.08550	200.0	0.00000	0.00000	1
3	f	6214	6215	1	0.00990	0.05690	0.09970	200.0	0.00000	0.00000	1
4	f	1106	1118	1	0.00552	0.01337	0.00298	85.0	0.00000	0.00000	1
5	f	6215	6211	1	0.00850	0.04880	0.08540	200.0	0.00000	0.00000	1
6	f	1106	1118	2	0.00552	0.01337	0.00298	85.0	0.00000	0.00000	1
7	f	6217	6228	1	0.01050	0.06020	0.10540	200.0	0.00000	0.00000	1
8	f	6207	6210	1	0.00750	0.04310	0.07550	200.0	0.00000	0.00000	1
9	f	9210	7206	1	0.00618	0.03300	0.05680	220.0	0.00000	0.00000	1

10	f	6207	6209	1	0.01130	0.06510	0.11390	200.0	0.00000	0.00000	1
11	f	1117	1118	1	0.00552	0.01337	0.00298	85.0	0.00000	0.00000	1
12	f	6207	8236	1	0.03124	0.17890	0.31240	200.0	0.00000	0.00000	1
13	f	1119	1117	2	0.00920	0.02228	0.00497	85.0	0.00000	0.00000	1
14	f	6207	8236	2	0.03124	0.17890	0.31240	200.0	0.00000	0.00000	1
15	f	1119	1107	2	0.01660	0.04010	0.00890	85.0	0.00000	0.00000	1
16	f	6207	6211	2	0.01421	0.08130	0.14200	200.0	0.00000	0.00000	1
17	f	1120	1118	2	0.00736	0.01782	0.00398	85.0	0.00000	0.00000	1
18	f	6208	6255	1	0.01006	0.05362	0.09230	200.0	0.00000	0.00000	1
19	f	1129	1120	1	0.01104	0.02674	0.00597	85.0	0.00000	0.00000	1
20	f	6208	6213	1	0.01690	0.09680	0.16950	200.0	0.00000	0.00000	1
21	f	1129	1144	1	0.09660	0.23394	0.05220	85.0	0.00000	0.00000	1
22	f	6208	6257	1	0.02011	0.10724	0.18460	200.0	0.00000	0.00000	1
23	f	1129	1144	2	0.09660	0.23394	0.05220	85.0	0.00000	0.00000	1
24	f	6210	7259	2	0.00680	0.03900	0.06840	200.0	0.00000	0.00000	1
25	f	1133	1134	1	0.01104	0.02674	0.00597	85.0	0.00000	0.00000	1
26	f	6210	7259	1	0.00680	0.03900	0.06840	200.0	0.00000	0.00000	1
27	f	1133	1141	1	0.00736	0.01782	0.00398	85.0	0.00000	0.00000	1
28	f	6211	6209	1	0.01130	0.06510	0.11390	200.0	0.00000	0.00000	1
29	f	1135	1134	1	0.01426	0.03453	0.00771	85.0	0.00000	0.00000	1
30	f	6212	6211	1	0.00960	0.05530	0.09680	200.0	0.00000	0.00000	1
31	f	1137	1133	1	0.00736	0.01782	0.00398	85.0	0.00000	0.00000	1
32	f	6212	6213	1	0.01690	0.09680	0.16950	200.0	0.00000	0.00000	1
33	f	1137	1139	1	0.02392	0.05793	0.01292	85.0	0.00000	0.00000	1
34	f	6212	6211	2	0.00960	0.05530	0.09680	200.0	0.00000	0.00000	1
35	f	1138	1133	1	0.00552	0.01337	0.00298	85.0	0.00000	0.00000	1
36	f	1104	1105	2	0.04280	0.10190	0.02350	85.0	0.00000	0.00000	1
37	f	1140	1139	2	0.02392	0.05793	0.01292	85.0	0.00000	0.00000	1
38	f	6213	6211	2	0.02040	0.11700	0.20510	200.0	0.00000	0.00000	1
39	f	1143	1142	1	0.05240	0.12700	0.02830	85.0	0.00000	0.00000	1
40	f	6213	4224	1	0.01300	0.06930	0.11940	200.0	0.00000	0.00000	1
41	f	1143	1145	1	0.04140	0.10030	0.02240	85.0	0.00000	0.00000	1
42	f	1106	1117	2	0.00828	0.02005	0.00448	85.0	0.00000	0.00000	1
43	f	1144	1108	1	0.02760	0.06684	0.01492	85.0	0.00000	0.00000	1
44	f	1106	1117	1	0.00828	0.02005	0.00448	85.0	0.00000	0.00000	1
45	f	1145	1141	2	0.02300	0.05570	0.01240	85.0	0.00000	0.00000	1
46	f	1108	1132	1	0.02330	0.05570	0.01243	85.0	0.00000	0.00000	1
47	f	1204	1205	1	0.00635	0.03661	0.06390	200.0	0.00000	0.00000	1
48	f	6217	6219	1	0.01350	0.07730	0.13530	200.0	0.00000	0.00000	1
49	f	1204	1205	2	0.00635	0.03661	0.06390	200.0	0.00000	0.00000	1
50	f	6217	6221	1	0.01630	0.09360	0.16370	200.0	0.00000	0.00000	1
51	f	1205	3220	1	0.00649	0.03742	0.06532	200.0	0.00000	0.00000	1
52	f	6217	8236	2	0.02620	0.15140	0.26260	200.0	0.00000	0.00000	1
53	f	1229	8202	1	0.00850	0.03500	0.08540	200.0	0.00000	0.00000	1
54	f	6217	8236	1	0.02620	0.15140	0.26260	200.0	0.00000	0.00000	1
55	f	2216	2226	1	0.00340	0.01950	0.03420	200.0	0.00000	0.00000	1
56	f	6217	6221	2	0.01630	0.09360	0.16370	200.0	0.00000	0.00000	1
57	f	2217	3217	1	0.01220	0.06990	0.12250	200.0	0.00000	0.00000	1

58	f	6219	6221	2	0.01420	0.08130	0.14240	200.0	0.00000	0.00000	1
59	f	2217	3213	2	0.00620	0.03570	0.06410	200.0	0.00000	0.00000	1
60	f	6219	6221	1	0.01420	0.08130	0.14240	200.0	0.00000	0.00000	1
61	f	2226	2216	3	0.00340	0.01950	0.03420	200.0	0.00000	0.00000	1
62	f	6221	8210	1	0.00610	0.03490	0.06120	200.0	0.00000	0.00000	1
63	f	2226	3250	1	0.01138	0.06508	0.11400	200.0	0.00000	0.00000	1
64	f	6221	8210	3	0.00610	0.03490	0.06120	200.0	0.00000	0.00000	1
65	f	2226	3250	2	0.01138	0.06508	0.11400	200.0	0.00000	0.00000	1
66	f	6221	6211	3	0.02660	0.15210	0.26630	200.0	0.00000	0.00000	1
67	f	2226	4202	1	0.02490	0.14230	0.24920	200.0	0.00000	0.00000	1
68	f	6221	6211	2	0.02660	0.15210	0.26630	200.0	0.00000	0.00000	1
69	f	2226	4212	1	0.01560	0.08950	0.15700	200.0	0.00000	0.00000	1
70	f	6221	6211	1	0.02660	0.15210	0.26630	200.0	0.00000	0.00000	1
71	f	3111	3113	1	0.02141	0.05097	0.01171	85.0	0.00000	0.00000	1
72	f	6221	8236	2	0.00780	0.04470	0.07830	200.0	0.00000	0.00000	1
73	f	3112	3144	2	0.00372	0.08864	0.02040	85.0	0.00000	0.00000	1
74	f	6221	8236	1	0.00780	0.04470	0.07830	200.0	0.00000	0.00000	1
75	f	3112	3113	1	0.01397	0.03324	0.00765	85.0	0.00000	0.00000	1
76	f	6221	8210	2	0.00610	0.03490	0.06120	200.0	0.00000	0.00000	1
77	f	3113	3129	1	0.02328	0.05540	0.01275	85.0	0.00000	0.00000	1
78	f	6225	6260	1	0.02166	0.11549	0.19880	200.0	0.00000	0.00000	1
79	f	3114	3144	1	0.07448	0.17728	0.04080	85.0	0.00000	0.00000	1
80	f	6225	6228	1	0.01050	0.06020	0.10540	200.0	0.00000	0.00000	1
81	f	3115	9109	2	0.03250	0.08170	0.01690	85.0	0.00000	0.00000	1
82	f	6225	6226	1	0.01350	0.07730	0.13530	200.0	0.00000	0.00000	1
83	f	3116	3117	1	0.02510	0.06300	0.01300	85.0	0.00000	0.00000	1
84	f	6225	6260	2	0.02166	0.11549	0.19880	200.0	0.00000	0.00000	1
85	f	3118	3121	1	0.05580	0.14020	0.02890	85.0	0.00000	0.00000	1
86	f	6228	6226	1	0.00620	0.03580	0.06280	200.0	0.00000	0.00000	1
87	f	3118	3121	2	0.05580	0.14020	0.02890	85.0	0.00000	0.00000	1
88	f	6230	6225	1	0.01130	0.06510	0.11390	85.0	0.00000	0.00000	1
89	f	3119	3121	2	0.04930	0.12380	0.02550	85.0	0.00000	0.00000	1
90	f	6230	6217	1	0.02840	0.16270	0.28460	200.0	0.00000	0.00000	1
91	f	3129	3117	2	0.02230	0.05600	0.01150	85.0	0.00000	0.00000	1
92	f	6233	6217	1	0.02700	0.15460	0.27060	200.0	0.00000	0.00000	1
93	f	3133	3135	1	0.04180	0.10510	0.02170	85.0	0.00000	0.00000	1
94	f	6233	6219	1	0.02170	0.11550	0.19880	200.0	0.00000	0.00000	1
95	f	3133	3135	3	0.04180	0.10510	0.02170	85.0	0.00000	0.00000	1
96	f	6255	6212	1	0.00495	0.02640	0.04544	200.0	0.00000	0.00000	1
97	f	3139	6159	1	0.15827	0.37672	0.08670	85.0	0.00000	0.00000	1
98	f	6256	6208	1	0.00619	0.03300	0.05680	200.0	0.00000	0.00000	1
99	f	3148	3149	2	0.05210	0.13080	0.02700	85.0	0.00000	0.00000	1
100	f	6406	8430	1	0.00070	0.00810	0.22800	550.0	0.00000	0.00000	1
101	f	3211	3210	2	0.00696	0.03712	0.06390	200.0	0.00000	0.00000	1
102	f	6406	8430	2	0.00070	0.00810	0.22800	550.0	0.00000	0.00000	1
103	f	3212	3237	2	0.00464	0.02475	0.04260	200.0	0.00000	0.00000	1
104	f	7118	7196	1	0.03610	0.09830	0.01820	85.0	0.00000	0.00000	1
105	f	3214	8205	1	0.01490	0.08540	0.14950	200.0	0.00000	0.00000	1

106	f	7118	7123	1	0.00460	0.01170	0.00240	85.0	0.00000	0.00000	1
107	f	3214	3219	1	0.01390	0.07970	0.13960	200.0	0.00000	0.00000	1
108	f	7119	7123	1	0.01030	0.13060	0.00620	85.0	0.00000	0.00000	1
109	f	3217	2226	1	0.01110	0.06340	0.11110	200.0	0.00000	0.00000	1
110	f	7121	7138	2	0.06350	0.15130	0.03480	85.0	0.00000	0.00000	1
111	f	3218	3217	2	0.01110	0.06350	0.11100	200.0	0.00000	0.00000	1
112	f	7121	7138	1	0.06350	0.15130	0.03480	85.0	0.00000	0.00000	1
113	f	3218	3217	1	0.01110	0.06350	0.11100	200.0	0.00000	0.00000	1
114	f	7124	7196	1	0.03690	0.08440	0.01840	85.0	0.00000	0.00000	1
115	f	3219	3217	2	0.00880	0.05040	0.08830	200.0	0.00000	0.00000	1
116	f	7124	7194	1	0.03120	0.07570	0.01660	85.0	0.00000	0.00000	1
117	f	3219	3214	2	0.01390	0.07970	0.13960	200.0	0.00000	0.00000	1
118	f	7128	7133	1	0.08620	0.21650	0.04440	85.0	0.00000	0.00000	1
119	f	3219	3214	3	0.01390	0.07970	0.13960	200.0	0.00000	0.00000	1
120	f	7130	7128	1	0.07670	0.19160	0.03960	85.0	0.00000	0.00000	1
121	f	3220	3228	1	0.00820	0.04710	0.08260	200.0	0.00000	0.00000	1
122	f	7130	7128	2	0.07670	0.19160	0.03960	85.0	0.00000	0.00000	1
123	f	3222	3224	2	0.00710	0.04060	0.07120	200.0	0.00000	0.00000	1
124	f	7132	7174	1	0.04660	0.11080	0.07100	85.0	0.00000	0.00000	1
125	f	3222	3220	2	0.00850	0.04810	0.08540	200.0	0.00000	0.00000	1
126	f	7132	7174	2	0.04660	0.11080	0.07100	85.0	0.00000	0.00000	1
127	f	3224	3227	1	0.00510	0.02930	0.05130	200.0	0.00000	0.00000	1
128	f	7135	7133	1	0.08380	0.20300	0.04160	85.0	0.00000	0.00000	1
129	f	3226	3231	2	0.00635	0.03987	0.06390	200.0	0.00000	0.00000	1
130	f	7138	7130	2	0.08280	0.20790	0.04290	85.0	0.00000	0.00000	1
131	f	3226	3212	1	0.00464	0.02475	0.04260	200.0	0.00000	0.00000	1
132	f	7138	7130	1	0.08280	0.20790	0.04290	85.0	0.00000	0.00000	1
133	f	3227	3240	2	0.00560	0.03250	0.05680	200.0	0.00000	0.00000	1
134	f	7144	7142	2	0.02100	0.05600	0.04440	85.0	0.00000	0.00000	1
135	f	3228	3214	1	0.00580	0.03340	0.05800	200.0	0.00000	0.00000	1
136	f	7144	7138	1	0.11910	0.29920	0.06180	85.0	0.00000	0.00000	1
137	f	3229	3250	1	0.00540	0.02890	0.04790	200.0	0.00000	0.00000	1
138	f	7144	7142	1	0.02100	0.05600	0.04440	85.0	0.00000	0.00000	1
139	f	3230	3213	1	0.00640	0.03660	0.06410	200.0	0.00000	0.00000	1
140	f	7144	7154	1	0.05580	0.13370	0.02900	85.0	0.00000	0.00000	1
141	f	3230	3219	1	0.00070	0.00400	0.00710	200.0	0.00000	0.00000	1
142	f	7147	7151	1	0.04560	0.11450	0.02360	85.0	0.00000	0.00000	1
143	f	3230	3232	2	0.01560	0.08940	0.15620	200.0	0.00000	0.00000	1
144	f	7149	7193	1	0.02870	0.06840	0.01410	85.0	0.00000	0.00000	1
145	f	3232	3250	1	0.00710	0.03790	0.06530	200.0	0.00000	0.00000	1
146	f	7149	7193	2	0.02870	0.06840	0.01410	85.0	0.00000	0.00000	1
147	f	3236	3232	3	0.00710	0.04060	0.07120	200.0	0.00000	0.00000	1
148	f	7150	7132	2	0.02979	0.07091	0.01632	85.0	0.00000	0.00000	1
149	f	3236	3232	2	0.00710	0.04060	0.07120	200.0	0.00000	0.00000	1
150	f	7150	7132	1	0.02979	0.07091	0.01632	85.0	0.00000	0.00000	1
151	f	3236	3232	4	0.00710	0.04060	0.07120	200.0	0.00000	0.00000	1
152	f	7156	7154	1	0.04200	0.10520	0.02180	85.0	0.00000	0.00000	1
153	f	3237	3232	1	0.01110	0.06340	0.11100	200.0	0.00000	0.00000	1

154	f	7158	7156	1	0.09300	0.22670	0.04680	85.0	0.00000	0.00000	1
155	f	3237	3210	1	0.00232	0.01237	0.02130	200.0	0.00000	0.00000	1
156	f	7164	7176	1	0.00580	0.01390	0.02860	85.0	0.00000	0.00000	1
157	f	3237	3217	1	0.00240	0.01380	0.02400	200.0	0.00000	0.00000	1
158	f	7170	7190	1	0.03130	0.07570	0.01740	85.0	0.00000	0.00000	1
159	f	3238	3224	2	0.00340	0.01950	0.03400	200.0	0.00000	0.00000	1
160	f	7170	7189	1	0.03180	0.07570	0.01740	85.0	0.00000	0.00000	1
161	f	3238	3222	2	0.00490	0.02840	0.04970	200.0	0.00000	0.00000	1
162	f	7170	7190	2	0.03130	0.07570	0.01740	85.0	0.00000	0.00000	1
163	f	3239	3247	2	0.00630	0.03660	0.06390	200.0	0.00000	0.00000	1
164	f	7170	7169	1	0.00090	0.00220	0.00050	85.0	0.00000	0.00000	1
165	f	3239	3247	1	0.00630	0.03660	0.06390	200.0	0.00000	0.00000	1
166	f	7170	7169	2	0.00090	0.00220	0.00050	85.0	0.00000	0.00000	1
167	f	3239	3231	2	0.00493	0.03100	0.04970	200.0	0.00000	0.00000	1
168	f	7170	7189	2	0.03180	0.07570	0.01740	85.0	0.00000	0.00000	1
169	f	3242	3229	2	0.00700	0.03710	0.06390	200.0	0.00000	0.00000	1
170	f	7173	7183	1	0.10350	0.26080	0.05320	85.0	0.00000	0.00000	1
171	f	3242	3236	2	0.00560	0.03250	0.05690	200.0	0.00000	0.00000	1
172	f	7176	7164	2	0.00580	0.01390	0.02860	85.0	0.00000	0.00000	1
173	f	3246	3243	1	0.00640	0.03660	0.06400	200.0	0.00000	0.00000	1
174	f	7178	7174	2	0.05590	0.13300	0.08520	85.0	0.00000	0.00000	1
175	f	3247	3246	2	0.00880	0.05040	0.08820	200.0	0.00000	0.00000	1
176	f	7178	7174	1	0.05590	0.13300	0.08520	85.0	0.00000	0.00000	1
177	f	3247	3231	2	0.00846	0.05320	0.08520	200.0	0.00000	0.00000	1
178	f	7181	7132	1	0.07488	0.17728	0.04080	85.0	0.00000	0.00000	1
179	f	4120	4122	2	0.08840	0.22200	0.04580	85.0	0.00000	0.00000	1
180	f	7181	7132	2	0.07488	0.17728	0.04080	85.0	0.00000	0.00000	1
181	f	4201	4211	3	0.00190	0.01140	0.02000	200.0	0.00000	0.00000	1
182	f	7189	7169	2	0.03220	0.07570	0.01700	85.0	0.00000	0.00000	1
183	f	4201	4224	1	0.01180	0.06750	0.11800	200.0	0.00000	0.00000	1
184	f	7189	7169	1	0.03220	0.07570	0.01700	85.0	0.00000	0.00000	1
185	f	4201	4211	1	0.00190	0.01140	0.02000	200.0	0.00000	0.00000	1
186	f	7189	7169	3	0.03220	0.07570	0.01700	85.0	0.00000	0.00000	1
187	f	4205	4216	1	0.00560	0.03250	0.05700	200.0	0.00000	0.00000	1
188	f	7189	7190	1	0.05280	0.12570	0.02890	85.0	0.00000	0.00000	1
189	f	4208	4202	1	0.00680	0.03900	0.06800	200.0	0.00000	0.00000	1
190	f	7190	7189	2	0.05280	0.12570	0.02890	85.0	0.00000	0.00000	1
191	f	4212	4201	1	0.01700	0.09760	0.17090	200.0	0.00000	0.00000	1
192	f	7190	7178	2	0.06700	0.15950	0.03670	85.0	0.00000	0.00000	1
193	f	4213	4224	1	0.00850	0.04880	0.08540	200.0	0.00000	0.00000	1
194	f	7190	7178	1	0.06700	0.15950	0.03670	85.0	0.00000	0.00000	1
195	f	4214	4213	1	0.00710	0.04060	0.07120	200.0	0.00000	0.00000	1
196	f	7191	7121	1	0.05330	0.12720	0.02910	85.0	0.00000	0.00000	1
197	f	4215	4211	1	0.01080	0.06180	0.10820	200.0	0.00000	0.00000	1
198	f	7191	7192	1	0.04510	0.11710	0.02400	85.0	0.00000	0.00000	1
199	f	4216	4215	1	0.00560	0.03250	0.05700	200.0	0.00000	0.00000	1
200	f	7191	7121	2	0.05330	0.12720	0.02910	85.0	0.00000	0.00000	1
201	f	4217	4224	2	0.00390	0.02280	0.03990	200.0	0.00000	0.00000	1

202	f	7191	7192	2	0.04510	0.11710	0.02400	100.0	0.00000	0.00000	1
203	f	4217	4224	4	0.00390	0.02280	0.03990	200.0	0.00000	0.00000	1
204	f	7192	7138	1	0.04960	0.12460	0.02440	85.0	0.00000	0.00000	1
205	f	4218	4219	2	0.00520	0.03010	0.05270	200.0	0.00000	0.00000	1
206	f	7193	7121	2	0.08140	0.19400	0.04460	85.0	0.00000	0.00000	1
207	f	4219	8220	3	0.00150	0.00820	0.01420	200.0	0.00000	0.00000	1
208	f	7193	7121	1	0.08140	0.19400	0.04460	85.0	0.00000	0.00000	1
209	f	4220	8228	1	0.00355	0.02033	0.03550	200.0	0.00000	0.00000	1
210	f	7193	7194	1	0.02430	0.06130	0.01230	85.0	0.00000	0.00000	1
211	f	4220	4222	1	0.00213	0.01220	0.02130	200.0	0.00000	0.00000	1
212	f	7194	7193	2	0.02430	0.06130	0.01230	85.0	0.00000	0.00000	1
213	f	4221	6213	1	0.01630	0.09360	0.16370	200.0	0.00000	0.00000	1
214	f	7195	7194	1	0.01650	0.04010	0.00880	85.0	0.00000	0.00000	1
215	f	4221	8239	2	0.00213	0.01220	0.02130	200.0	0.00000	0.00000	1
216	f	7195	7124	1	0.01400	0.03520	0.00720	85.0	0.00000	0.00000	1
217	f	4221	4217	1	0.01690	0.09680	0.16950	200.0	0.00000	0.00000	1
218	f	7196	7124	2	0.03690	0.08440	0.01840	85.0	0.00000	0.00000	1
219	f	4221	3218	2	0.01620	0.09270	0.16230	200.0	0.00000	0.00000	1
220	f	7197	7118	1	0.00450	0.01100	0.00240	85.0	0.00000	0.00000	1
221	f	4222	8220	1	0.00114	0.00651	0.01136	200.0	0.00000	0.00000	1
222	f	7197	7196	1	0.03580	0.08830	0.01880	85.0	0.00000	0.00000	1
223	f	4224	8220	1	0.00850	0.04870	0.08540	200.0	0.00000	0.00000	1
224	f	7206	7250	1	0.01560	0.07940	0.13940	200.0	0.00000	0.00000	1
225	f	4224	4219	1	0.00850	0.04870	0.08540	200.0	0.00000	0.00000	1
226	f	7206	7299	2	0.00080	0.00530	0.00820	200.0	0.00000	0.00000	1
227	f	4234	4215	1	0.00780	0.04470	0.07810	200.0	0.00000	0.00000	1
228	f	7206	7225	1	0.01160	0.06700	0.11670	200.0	0.00000	0.00000	1
229	f	4409	8424	1	0.00190	0.02190	0.60980	550.0	0.00000	0.00000	1
230	f	7206	7299	1	0.00080	0.00530	0.00820	200.0	0.00000	0.00000	1
231	f	4410	5427	1	0.00180	0.02040	0.56980	550.0	0.00000	0.00000	1
232	f	7206	7250	2	0.01560	0.07940	0.13940	200.0	0.00000	0.00000	1
233	f	5204	5222	1	0.00310	0.01830	0.03120	200.0	0.00000	0.00000	1
234	f	7207	7245	1	0.00580	0.03320	0.05830	200.0	0.00000	0.00000	1
235	f	5204	5212	2	0.00430	0.02310	0.03980	200.0	0.00000	0.00000	1
236	f	7211	7284	1	0.00923	0.05280	0.09230	200.0	0.00000	0.00000	1
237	f	5204	4201	2	0.00790	0.04560	0.07980	200.0	0.00000	0.00000	1
238	f	7212	7257	2	0.01420	0.08130	0.14200	200.0	0.00000	0.00000	1
239	f	5206	5205	1	0.00050	0.00330	0.00570	200.0	0.00000	0.00000	1
240	f	7212	7257	1	0.01420	0.08130	0.14200	200.0	0.00000	0.00000	1
241	f	5206	5207	1	0.00010	0.00810	0.00140	200.0	0.00000	0.00000	1
242	f	7212	7262	1	0.00970	0.05540	0.09700	200.0	0.00000	0.00000	1
243	f	5208	8221	2	0.00080	0.00480	0.00850	200.0	0.00000	0.00000	1
244	f	7213	7209	1	0.01080	0.05770	0.09940	200.0	0.00000	0.00000	1
245	f	5209	8221	1	0.00240	0.01380	0.02420	200.0	0.00000	0.00000	1
246	f	7214	8221	1	0.00093	0.00500	0.00800	200.0	0.00000	0.00000	1
247	f	5210	5209	1	0.00850	0.04870	0.08540	200.0	0.00000	0.00000	1
248	f	7214	7219	1	0.00045	0.00280	0.00495	200.0	0.00000	0.00000	1
249	f	5211	5209	2	0.00070	0.00400	0.00710	200.0	0.00000	0.00000	1

250	f	7219	5205	1	0.00110	0.00650	0.01140	200.0	0.00000	0.00000	1
251	f	5212	5205	1	0.00350	0.01970	0.03370	200.0	0.00000	0.00000	1
252	f	7219	7245	2	0.00350	0.01970	0.03370	200.0	0.00000	0.00000	1
253	f	5212	5218	1	0.00120	0.00730	0.01280	200.0	0.00000	0.00000	1
254	f	7219	7245	1	0.00350	0.01970	0.03370	200.0	0.00000	0.00000	1
255	f	5213	5204	1	0.00170	0.00970	0.01700	200.0	0.00000	0.00000	1
256	f	7219	7220	1	0.00213	0.01252	0.02130	200.0	0.00000	0.00000	1
257	f	5213	5216	1	0.00170	0.00980	0.01700	200.0	0.00000	0.00000	1
258	f	7220	8221	1	0.00284	0.01620	0.02840	200.0	0.00000	0.00000	1
259	f	5215	5218	2	0.00090	0.00560	0.00990	200.0	0.00000	0.00000	1
260	f	7220	5205	1	0.00010	0.00080	0.00140	200.0	0.00000	0.00000	1
261	f	5216	5213	2	0.00170	0.00980	0.01700	200.0	0.00000	0.00000	1
262	f	7222	7239	1	0.00960	0.05520	0.09680	200.0	0.00000	0.00000	1
263	f	5217	5216	1	0.00080	0.00480	0.00850	200.0	0.00000	0.00000	1
264	f	7225	7298	1	0.01130	0.05740	0.09120	200.0	0.00000	0.00000	1
265	f	5217	5213	1	0.00160	0.00900	0.01560	200.0	0.00000	0.00000	1
266	f	7225	7298	2	0.01130	0.05740	0.09120	200.0	0.00000	0.00000	1
267	f	5219	5207	2	0.00040	0.00180	0.13680	200.0	0.00000	0.00000	1
268	f	7229	7234	1	0.01330	0.07640	0.13380	200.0	0.00000	0.00000	0
269	f	5220	5207	1	0.00170	0.00970	0.01710	200.0	0.00000	0.00000	1
270	f	7231	7229	1	0.01152	0.06580	0.11530	200.0	0.00000	0.00000	1
271	f	5220	5226	1	0.00140	0.00810	0.01420	200.0	0.00000	0.00000	1
272	f	7231	8229	1	0.01505	0.08628	0.15050	200.0	0.00000	0.00000	1
273	f	5220	5207	2	0.00170	0.00970	0.01710	200.0	0.00000	0.00000	1
274	f	7236	7234	1	0.01360	0.07800	0.13660	200.0	0.00000	0.00000	1
275	f	5223	8221	1	0.00030	0.00200	0.00360	200.0	0.00000	0.00000	1
276	f	7236	7213	1	0.00780	0.04470	0.07810	200.0	0.00000	0.00000	1
277	f	5225	5212	2	0.00250	0.01460	0.02550	200.0	0.00000	0.00000	1
278	f	7236	7208	2	0.00560	0.03250	0.05680	200.0	0.00000	0.00000	1
279	f	5427	8435	1	0.00010	0.00320	0.15640	999.0	0.00000	0.00000	1
280	f	7236	7209	1	0.00852	0.04881	0.08520	200.0	0.00000	0.00000	1
281	f	6109	6151	1	0.04190	0.09972	0.02295	85.0	0.00000	0.00000	1
282	f	7236	7208	1	0.00560	0.03250	0.05680	200.0	0.00000	0.00000	1
283	f	6116	6122	1	0.10580	0.25620	0.05710	85.0	0.00000	0.00000	1
284	f	7239	8209	1	0.01270	0.06410	0.10440	200.0	0.00000	0.00000	1
285	f	6116	6129	1	0.06900	0.17310	0.03580	85.0	0.00000	0.00000	1
286	f	7239	7231	1	0.01180	0.06740	0.11810	200.0	0.00000	0.00000	1
287	f	6120	6152	2	0.11172	0.26592	0.06120	85.0	0.00000	0.00000	1
288	f	7241	7243	1	0.00560	0.03250	0.05690	200.0	0.00000	0.00000	1
289	f	6120	6122	1	0.03950	0.09580	0.02130	85.0	0.00000	0.00000	1
290	f	7241	8209	1	0.01120	0.06430	0.11240	200.0	0.00000	0.00000	1
291	f	6122	6101	1	0.02760	0.06840	0.01500	85.0	0.00000	0.00000	1
292	f	7243	7245	1	0.00650	0.03800	0.06550	200.0	0.00000	0.00000	1
293	f	6123	6120	1	0.01680	0.04670	0.00960	85.0	0.00000	0.00000	1
294	f	7248	7207	1	0.00560	0.03250	0.05690	200.0	0.00000	0.00000	1
295	f	6123	6120	2	0.01680	0.04670	0.00960	85.0	0.00000	0.00000	1
296	f	7248	7250	1	0.00990	0.05690	0.09650	200.0	0.00000	0.00000	1
297	f	6124	6160	1	0.01303	0.31024	0.07140	85.0	0.00000	0.00000	1

298	f	7248	7252	1	0.01420	0.08130	0.14200	200.0	0.00000	0.00000	1
299	f	6129	6127	1	0.04090	0.10290	0.02120	85.0	0.00000	0.00000	1
300	f	7248	7250	2	0.00990	0.05690	0.09650	200.0	0.00000	0.00000	1
301	f	6152	6153	1	0.09776	0.23268	0.05355	85.0	0.00000	0.00000	1
302	f	7248	7245	1	0.01230	0.07070	0.12380	200.0	0.00000	0.00000	1
303	f	6153	6151	1	0.04469	0.10637	0.02448	85.0	0.00000	0.00000	1
304	f	7251	7257	1	0.01390	0.07960	0.13950	200.0	0.00000	0.00000	1
305	f	6154	6118	1	0.05400	0.12853	0.02958	85.0	0.00000	0.00000	1
306	f	7251	7259	1	0.00154	0.00825	0.01420	200.0	0.00000	0.00000	1
307	f	6201	6209	2	0.00994	0.05900	0.09940	200.0	0.00000	0.00000	1
308	f	7252	7243	1	0.00640	0.03650	0.06400	200.0	0.00000	0.00000	1
309	f	6207	6211	1	0.01421	0.08130	0.14200	200.0	0.00000	0.00000	1
310	f	7252	7225	1	0.01420	0.08130	0.14200	200.0	0.00000	0.00000	1
311	f	1119	1107	1	0.01660	0.04010	0.00890	85.0	0.00000	0.00000	1
312	f	7255	7245	2	0.00850	0.04870	0.08540	200.0	0.00000	0.00000	1
313	f	1120	1118	1	0.00736	0.01782	0.00398	85.0	0.00000	0.00000	1
314	f	7255	7257	2	0.00640	0.03650	0.00000	200.0	0.00000	0.00000	1
315	f	1129	1120	2	0.01104	0.02674	0.00597	85.0	0.00000	0.00000	1
316	f	7255	8209	1	0.00850	0.04880	0.08540	200.0	0.00000	0.00000	1
317	f	1132	1133	1	0.02300	0.05570	0.01243	85.0	0.00000	0.00000	1
318	f	7255	7245	1	0.00850	0.04870	0.08540	200.0	0.00000	0.00000	1
319	f	1135	1136	1	0.00736	0.01782	0.00398	85.0	0.00000	0.00000	1
320	f	7255	7257	1	0.00640	0.03650	0.06400	200.0	0.00000	0.00000	1
321	f	1137	1138	1	0.00598	0.01448	0.00323	85.0	0.00000	0.00000	1
322	f	7255	8209	2	0.00850	0.04880	0.08540	200.0	0.00000	0.00000	1
323	f	1140	1139	1	0.02392	0.05793	0.01292	85.0	0.00000	0.00000	1
324	f	7259	7261	1	0.00990	0.05090	0.08020	200.0	0.00000	0.00000	1
325	f	1143	1145	2	0.04140	0.10030	0.02240	85.0	0.00000	0.00000	1
326	f	7259	8234	1	0.02490	0.14220	0.24920	200.0	0.00000	0.00000	1
327	f	1145	1141	1	0.02300	0.05570	0.01240	85.0	0.00000	0.00000	1
328	f	7259	8234	2	0.02490	0.14220	0.24920	200.0	0.00000	0.00000	1
329	f	1204	1206	1	0.00635	0.03661	0.06390	200.0	0.00000	0.00000	1
330	f	7261	7262	1	0.00850	0.05010	0.08520	200.0	0.00000	0.00000	1
331	f	1206	1204	2	0.00635	0.03661	0.06390	200.0	0.00000	0.00000	1
332	f	7262	7265	2	0.02590	0.12390	0.21130	200.0	0.00000	0.00000	1
333	f	2217	2226	2	0.00340	0.01950	0.03420	200.0	0.00000	0.00000	1
334	f	7262	7265	1	0.02590	0.12390	0.21130	200.0	0.00000	0.00000	1
335	f	2217	3213	1	0.00620	0.03570	0.06410	200.0	0.00000	0.00000	1
336	f	7262	7212	2	0.01000	0.10000	0.00000	100.0	0.00000	0.00000	1
337	f	2226	2218	2	0.00820	0.04710	0.08260	200.0	0.00000	0.00000	1
338	f	7263	7262	1	0.03030	0.17330	0.30330	200.0	0.00000	0.00000	1
339	f	2226	2216	2	0.00340	0.01950	0.03420	200.0	0.00000	0.00000	1
340	f	7263	7262	2	0.03030	0.17330	0.30330	200.0	0.00000	0.00000	1
341	f	3111	3148	1	0.01676	0.03989	0.00918	85.0	0.00000	0.00000	1
342	f	7265	7277	2	0.01280	0.07310	0.12810	200.0	0.00000	0.00000	1
343	f	3112	3113	2	0.01397	0.03324	0.00765	85.0	0.00000	0.00000	1
344	f	7265	7208	1	0.00420	0.02440	0.04260	200.0	0.00000	0.00000	1
345	f	3115	9109	1	0.03250	0.08170	0.01690	85.0	0.00000	0.00000	1


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390 f 7427 7498 1 0.00162 0.01850 0.51210 550.0 0.00000 0.00000 1
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447 f 6116 6122 2 0.10580 0.25620 0.05710 85.0 0.00000 0.00000 1
448 f 8203 1228 2 0.00878 0.05068 0.08846 200.0 0.00000 0.00000 1
449 f 6120 6122 2 0.03950 0.09580 0.02130 85.0 0.00000 0.00000 1
450 f 8203 8202 3 0.00846 0.04881 0.08520 200.0 0.00000 0.00000 1
451 f 6122 6101 2 0.02760 0.06840 0.01500 85.0 0.00000 0.00000 1
452 f 8203 8202 2 0.00846 0.04881 0.08520 200.0 0.00000 0.00000 1
453 f 6123 6120 3 0.01680 0.04670 0.00960 85.0 0.00000 0.00000 1
454 f 8205 9220 1 0.00928 0.04949 0.08520 85.0 0.00000 0.00000 1
455 f 6131 6124 1 0.07440 0.18720 0.03870 85.0 0.00000 0.00000 1
456 f 8209 7257 1 0.00580 0.02900 0.04740 200.0 0.00000 0.00000 1
457 f 6154 6132 1 0.05400 0.12853 0.02958 85.0 0.00000 0.00000 1
458 f 8210 6226 1 0.01760 0.10080 0.17660 200.0 0.00000 0.00000 1
459 f 6201 6209 1 0.00994 0.05900 0.09940 200.0 0.00000 0.00000 1
460 f 8221 4219 1 0.00370 0.01980 0.03410 200.0 0.00000 0.00000 1
461 f 1119 1117 1 0.00920 0.02228 0.00497 85.0 0.00000 0.00000 1
462 f 8221 6209 1 0.01900 0.10900 0.19020 200.0 0.00000 0.00000 1
463 f 1129 1107 1 0.01288 0.03119 0.00696 85.0 0.00000 0.00000 1
464 f 8221 5209 2 0.00240 0.01380 0.02420 200.0 0.00000 0.00000 1
465 f 1136 1137 1 0.01472 0.03565 0.00796 85.0 0.00000 0.00000 1
466 f 8221 4219 2 0.00370 0.01980 0.03410 200.0 0.00000 0.00000 1
467 f 1142 1141 1 0.01200 0.02900 0.00650 85.0 0.00000 0.00000 1
468 f 8228 8220 1 0.00497 0.02847 0.04970 200.0 0.00000 0.00000 1
469 f 1203 3220 1 0.01775 0.10168 0.17750 200.0 0.00000 0.00000 1
470 f 8228 8220 2 0.00497 0.02847 0.04970 200.0 0.00000 0.00000 1
471 f 1229 8202 2 0.00850 0.03500 0.08540 200.0 0.00000 0.00000 1
472 f 8229 7231 2 0.01505 0.08628 0.15050 200.0 0.00000 0.00000 1
473 f 2226 4212 2 0.01560 0.08950 0.15700 200.0 0.00000 0.00000 1
474 f 8231 8267 2 0.02200 0.11710 0.20200 200.0 0.00000 0.00000 1
475 f 2419 4409 1 0.00460 0.05250 1.46460 550.0 0.00000 0.00000 1
476 f 8231 8267 1 0.02200 0.11710 0.20200 200.0 0.00000 0.00000 1
477 f 3114 3144 2 0.07448 0.17728 0.04080 85.0 0.00000 0.00000 1
478 f 8267 7209 1 0.00990 0.05690 0.09940 200.0 0.00000 0.00000 1
479 f 3118 3117 1 0.04090 0.10280 0.02120 85.0 0.00000 0.00000 1
480 f 8267 7277 2 0.00568 0.03340 0.05680 200.0 0.00000 0.00000 1
481 f 3133 3149 1 0.03350 0.08410 0.01730 85.0 0.00000 0.00000 1
482 f 8267 8231 4 0.02200 0.11710 0.20200 200.0 0.00000 0.00000 1
483 f 3212 3237 1 0.00464 0.02475 0.04260 200.0 0.00000 0.00000 1
484 f 8267 7209 2 0.00990 0.05690 0.09940 200.0 0.00000 0.00000 1
485 f 3217 2226 2 0.01110 0.06340 0.11110 200.0 0.00000 0.00000 1
486 f 8267 7277 1 0.00568 0.03340 0.05680 200.0 0.00000 0.00000 1
487 f 3219 3224 1 0.01130 0.06510 0.11390 200.0 0.00000 0.00000 1
488 f 8267 8231 3 0.02200 0.11710 0.20200 200.0 0.00000 0.00000 1
489 f 3222 3224 1 0.00710 0.04060 0.07120 200.0 0.00000 0.00000 1

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491 f 3227 3240 1 0.00560 0.03250 0.05680 200.0 0.00000 0.00000 1
492 f 8413 8414 2 0.00390 0.04520 1.25180 550.0 0.00000 -0.45000 1
493 f 3230 3232 1 0.01560 0.08940 0.15620 200.0 0.00000 0.00000 1
494 f 8413 8418 2 0.00410 0.10000 1.34280 550.0 -0.45000 -0.45000 1
495 f 3236 2226 2 0.01050 0.06020 0.10540 200.0 0.00000 0.00000 1
496 f 8413 8418 1 0.00410 0.10000 1.34280 550.0 -0.45000 -0.45000 1
497 f 3237 3232 2 0.01110 0.06340 0.11100 200.0 0.00000 0.00000 1
498 f 8414 4410 1 0.00060 0.00720 0.19500 550.0 0.00000 0.00000 1
499 f 3239 3226 1 0.00930 0.04949 0.08520 200.0 0.00000 0.00000 1
500 f 8414 5427 1 0.00300 0.03320 0.88800 550.0 0.00000 0.00000 1
501 f 3247 3246 1 0.00880 0.05040 0.08820 200.0 0.00000 0.00000 1
502 f 8414 8430 1 0.00520 0.05830 1.55950 550.0 -0.45000 -0.45000 1
503 f 4201 4211 4 0.00190 0.01140 0.02000 200.0 0.00000 0.00000 1
504 f 8415 8418 1 0.00800 0.08160 2.13640 550.0 0.00000 0.00000 1
505 f 4208 4201 1 0.01060 0.06100 0.10700 200.0 0.00000 0.00000 1
506 f 8417 8416 1 0.00160 0.01850 0.51210 550.0 -0.45000 0.00000 1
507 f 4215 4223 1 0.01520 0.08710 0.15240 200.0 0.00000 0.00000 1
508 f 8417 8416 2 0.00160 0.01850 0.51210 550.0 -0.45000 0.00000 1
509 f 4219 8220 2 0.00150 0.00820 0.01420 200.0 0.00000 0.00000 1
510 f 8419 8424 1 0.00040 0.00960 0.46430 999.0 0.00000 0.00000 1
511 f 4221 8239 1 0.00213 0.01220 0.02130 200.0 0.00000 0.00000 1
512 f 8419 8431 1 0.00720 0.08180 2.27800 550.0 -0.72000 -0.72000 1
513 f 4224 6213 2 0.01300 0.06930 0.11940 200.0 0.00000 0.00000 1
514 f 8422 8431 1 0.00450 0.05170 1.44180 550.0 -0.45000 -0.45000 1
515 f 4410 2419 1 0.00630 0.07150 1.99460 550.0 -0.45000 0.00000 1
516 f 8422 8430 1 0.00430 0.04970 1.38500 550.0 -0.45000 -0.45000 1
517 f 5204 4201 3 0.00790 0.04560 0.07980 200.0 0.00000 0.00000 1
518 f 8422 8419 1 0.00360 0.04080 1.13900 550.0 0.00000 -0.45000 1
519 f 5210 5209 2 0.00850 0.04870 0.08540 200.0 0.00000 0.00000 1
520 f 8422 8426 1 0.00310 0.03570 0.99730 550.0 -0.45000 0.00000 1
521 f 5213 5210 1 0.00280 0.01620 0.02840 200.0 0.00000 0.00000 1
522 f 8422 8426 2 0.00310 0.03570 0.99730 550.0 -0.45000 0.00000 1
523 f 5217 5213 2 0.00160 0.00900 0.01560 200.0 0.00000 0.00000 1
524 f 8423 8490 1 0.00009 0.00102 0.02840 550.0 0.00000 0.00000 1
525 f 5220 5226 2 0.00140 0.00810 0.01420 200.0 0.00000 0.00000 1
526 f 8424 8435 2 0.00030 0.00830 0.40300 999.0 0.00000 0.00000 1
527 f 5427 8435 2 0.00010 0.00320 0.15640 999.0 0.00000 0.00000 1
528 f 1104 1105 1 0.04280 0.10190 0.02350 85.0 0.00000 0.00000 1
529 f 6118 6116 1 0.07910 0.19860 0.04100 85.0 0.00000 0.00000 1
530 f 8424 8435 1 0.00030 0.00830 0.40300 999.0 0.00000 0.00000 1
531 f 6123 6122 1 0.02110 0.05120 0.01140 85.0 0.00000 0.00000 1
532 f 8424 7446 1 0.00050 0.00570 0.15960 800.0 0.00000 0.00000 1
533 f 6152 6111 1 0.11638 0.27700 0.06375 85.0 0.00000 0.00000 1
534 f 8424 8419 2 0.00040 0.00960 0.46430 999.0 0.00000 0.00000 1
535 f 1117 1118 2 0.00552 0.01337 0.00298 85.0 0.00000 0.00000 1
536 f 8425 8424 1 0.00640 0.07400 2.04840 550.0 -0.57000 0.00000 1
537 f 1133 1141 2 0.00736 0.01782 0.00398 85.0 0.00000 0.00000 1

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538 f 8431 7466 2 0.00010 0.00200 0.05690 550.0 0.00000 0.00000 1
539 f 1144 1108 2 0.02760 0.06684 0.01492 85.0 0.00000 0.00000 1
540 f 8431 8423 1 0.00740 0.08380 2.33600 550.0 -0.72000 -0.72000 1
541 f 2217 2226 1 0.00340 0.01950 0.03420 200.0 0.00000 0.00000 1
542 f 8431 7466 1 0.00010 0.00200 0.05690 550.0 0.00000 0.00000 1
543 f 3112 3144 1 0.00372 0.08864 0.02040 85.0 0.00000 0.00000 1
544 f 8431 8423 2 0.00740 0.08380 2.33600 550.0 -0.72000 0.00000 1
545 f 3119 9111 1 0.06420 0.16120 0.03330 85.0 0.00000 0.00000 1
546 f 8433 8423 1 0.00070 0.00810 0.22800 550.0 0.00000 0.00000 1
547 f 3214 3228 2 0.00850 0.04870 0.08540 200.0 0.00000 0.00000 1
548 f 8433 8423 2 0.00070 0.00810 0.22800 550.0 0.00000 0.00000 1
549 f 3220 3228 2 0.00820 0.04710 0.08260 200.0 0.00000 0.00000 1
550 f 8490 8431 1 0.00720 0.08190 2.26000 550.0 -0.72000 -0.72000 1
551 f 3230 3240 2 0.00640 0.03670 0.06400 200.0 0.00000 0.00000 1
552 f 1105 1106 1 0.02510 0.05980 0.01380 85.0 0.00000 0.00000 1
553 f 3237 3217 2 0.00240 0.01380 0.02400 200.0 0.00000 0.00000 1
554 f 1105 1118 1 0.02420 0.05760 0.01330 85.0 0.00000 0.00000 1
555 f 3242 3236 1 0.00560 0.03250 0.05690 200.0 0.00000 0.00000 1
556 f 1105 1106 2 0.02510 0.05980 0.01380 85.0 0.00000 0.00000 1
557 f 4202 4207 1 0.00070 0.00400 0.00710 200.0 0.00000 0.00000 1
558 f 1105 1118 2 0.02420 0.05760 0.01330 85.0 0.00000 0.00000 1
559 f 4217 4224 1 0.00390 0.02280 0.03990 200.0 0.00000 0.00000 1
560 f 9107 9121 1 0.01676 0.03989 0.00918 85.0 0.00000 0.00000 1
561 f 4221 4234 1 0.00071 0.00407 0.00710 200.0 0.00000 0.00000 1
562 f 9109 9110 1 0.04650 0.11800 0.02410 85.0 0.00000 0.00000 1
563 f 5204 5222 2 0.00310 0.01830 0.03120 200.0 0.00000 0.00000 1
564 f 9111 3119 2 0.06420 0.16120 0.03330 85.0 0.00000 0.00000 1
565 f 5212 5218 2 0.00120 0.00730 0.01280 200.0 0.00000 0.00000 1
566 f 9111 3115 2 0.05580 0.14020 0.02890 85.0 0.00000 0.00000 1
567 f 5219 5207 1 0.00040 0.00180 0.13680 200.0 0.00000 0.00000 1
568 f 9111 3115 1 0.05580 0.14020 0.02890 85.0 0.00000 0.00000 1
569 f 6109 6111 1 0.09310 0.22160 0.05049 85.0 0.00000 0.00000 1
570 f 9112 7197 1 0.02600 0.06430 0.01350 85.0 0.00000 0.00000 1
571 f 6127 6124 1 0.08830 0.22230 0.04590 85.0 0.00000 0.00000 1
572 f 9120 9123 1 0.05586 0.13296 0.03060 85.0 0.00000 0.00000 1
573 f 1129 1107 2 0.01288 0.03119 0.00696 85.0 0.00000 0.00000 1
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575 f 1205 1228 1 0.00649 0.03742 0.06532 200.0 0.00000 0.00000 1
576 f 9122 9107 1 0.02050 0.04870 0.01120 85.0 0.00000 0.00000 1
577 f 3116 9110 1 0.06040 0.15190 0.03130 85.0 0.00000 0.00000 1
578 f 9122 9107 2 0.02050 0.04870 0.01120 85.0 0.00000 0.00000 1
579 f 3218 3246 1 0.00510 0.02930 0.05120 200.0 0.00000 0.00000 1
580 f 9122 9112 2 0.06145 0.14626 0.03366 85.0 0.00000 0.00000 1
581 f 3236 2226 1 0.01050 0.06020 0.10540 200.0 0.00000 0.00000 1
582 f 9122 9112 1 0.06145 0.14626 0.03366 85.0 0.00000 0.00000 1
583 f 4106 9112 1 0.01480 0.03730 0.00770 85.0 0.00000 0.00000 1
584 f 9123 9110 1 0.04003 0.09529 0.02193 85.0 0.00000 0.00000 1
585 f 4220 4222 2 0.00213 0.01220 0.02130 200.0 0.00000 0.00000 1

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586 f 9123 9110 2 0.04003 0.09529 0.02193 85.0 0.00000 0.00000 1
587 f 5207 5206 2 0.00010 0.00810 0.00140 200.0 0.00000 0.00000 1
588 f 9124 9107 2 0.04003 0.09529 0.02193 85.0 0.00000 0.00000 1
589 f 5223 8221 2 0.00030 0.00200 0.00360 200.0 0.00000 0.00000 1
590 f 9124 9107 1 0.04003 0.09529 0.02193 85.0 0.00000 0.00000 1
591 f 6159 4122 1 0.12103 0.28808 0.06630 85.0 0.00000 0.00000 1
592 f 9124 9110 2 0.04003 0.09529 0.02193 85.0 0.00000 0.00000 1
593 f 2226 2218 1 0.00820 0.04710 0.08260 200.0 0.00000 0.00000 1
594 f 9124 9110 1 0.04003 0.09529 0.02193 85.0 0.00000 0.00000 1
595 f 3226 3212 2 0.00464 0.02475 0.04260 200.0 0.00000 0.00000 1
596 f 9125 9124 1 0.06145 0.15626 0.03366 85.0 0.00000 0.00000 1
597 f 4214 4224 1 0.00990 0.05690 0.09900 200.0 0.00000 0.00000 1
598 f 9125 9110 2 0.10707 0.25484 0.05865 85.0 0.00000 0.00000 1
599 f 5213 5210 2 0.00280 0.01620 0.02840 200.0 0.00000 0.00000 1
600 f 9125 9110 1 0.10707 0.25484 0.05865 85.0 0.00000 0.00000 1
601 f 1137 1139 2 0.02392 0.05793 0.01292 85.0 0.00000 0.00000 1
602 f 9125 9124 2 0.06145 0.15626 0.03366 85.0 0.00000 0.00000 1
603 f 3238 3224 1 0.00340 0.01950 0.03400 200.0 0.00000 0.00000 1
604 f 9208 4204 2 0.01280 0.07320 0.12820 200.0 0.00000 0.00000 1
605 f 6120 6152 1 0.11172 0.26592 0.06120 85.0 0.00000 0.00000 1
606 f 9208 4204 1 0.01280 0.07320 0.12820 200.0 0.00000 0.00000 1
607 f 4234 8239 1 0.00142 0.00813 0.01420 200.0 0.00000 0.00000 1
608 f 9209 9208 2 0.01700 0.09100 0.15620 200.0 0.00000 0.00000 1
609 f 3148 3149 1 0.05210 0.13080 0.02700 85.0 0.00000 0.00000 1
610 f 9209 9208 1 0.01700 0.09100 0.15620 200.0 0.00000 0.00000 1

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5 Transformer Data:

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611 x 1108 1006 1 0.00000 0.38250 25.0 1.250 -8 8 0 1.00000 0.000 5 1
612 x 8238 8011 1 0.00000 0.02430 600.0 1.250 -8 8 0 1.00000 0.000 5 1
613 x 7236 7437 1 0.00000 0.02600 480.0 1.250 -8 8 0 1.00000 0.000 5 1
614 x 1140 1205 1 0.00000 0.11250 120.0 1.250 -8 8 0 1.00000 0.000 5 1
615 x 7236 7135 1 0.00000 0.03130 400.0 1.250 -8 8 0 1.00000 0.000 5 1
616 x 7288 7427 1 0.00000 0.03960 315.0 1.250 -8 8 0 1.00000 0.000 5 1
617 x 7124 7225 1 0.00000 0.06250 200.0 1.250 -8 8 0 1.00000 0.000 5 1
618 x 5206 5002 1 0.00000 0.06112 210.0 1.250 -8 8 0 1.00000 0.000 5 1
619 x 4106 4003 1 0.00000 0.16670 60.0 1.250 -8 8 0 1.00000 0.000 5 1
620 x 7191 7001 1 0.00000 0.07500 225.0 1.250 -8 8 0 1.00000 0.000 5 1
621 x 8267 8015 1 0.00000 0.01460 988.0 1.250 -8 8 0 1.00000 0.000 5 1
622 x 7429 7251 1 0.00000 0.03960 315.0 1.250 -8 8 0 1.00000 0.000 5 1
623 x 3232 3133 1 0.00000 0.12500 100.0 1.250 -8 8 0 1.00000 0.000 5 1
624 x 6221 6008 1 0.00000 0.05000 200.0 1.250 -8 8 0 1.00000 0.000 5 1
625 x 6160 6260 1 0.00000 0.13500 100.0 1.250 -8 8 0 1.00000 0.000 5 1
626 x 2218 2419 1 0.00000 0.05000 250.0 1.250 -8 8 0 1.00000 0.000 5 1
627 x 6160 6005 1 0.00000 0.13120 160.0 1.250 -8 8 0 1.00000 0.000 5 1
628 x 7446 7245 1 0.00000 0.01570 795.0 1.250 -8 8 0 1.00000 0.000 5 1
629 x 7239 7440 1 0.00000 0.02600 480.0 1.250 -8 8 0 1.00000 0.000 5 1
630 x 1229 1129 1 0.00000 0.04170 300.0 1.250 -8 8 0 1.00000 0.000 5 1
631 x 8413 3226 1 0.00000 0.02500 500.0 1.250 -8 8 0 1.00000 0.000 5 1

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632 x 7195 7002 1 0.00000 0.06875 160.0 1.250 -8 8 0 1.00000 0.000 5 1
633 x 4106 4207 1 0.00000 0.12500 100.0 1.250 -8 8 0 1.00000 0.000 5 1
634 x 2226 3135 1 0.00000 0.06250 200.0 1.250 -8 8 0 1.00000 0.000 5 1
635 x 3135 2008 1 0.00000 0.03230 50.0 1.250 -8 8 0 1.00000 0.000 5 1
636 x 3243 8425 1 0.00000 0.01980 630.0 1.250 -8 8 0 1.00000 0.000 5 1
637 x 7132 7498 1 0.00000 0.04200 300.0 1.250 -8 8 0 1.00000 0.000 5 1
638 x 2001 3214 1 0.00000 0.04160 450.0 1.250 -8 8 0 1.00000 0.000 5 1
639 x 4120 4221 1 0.00000 0.06250 200.0 1.250 -8 8 0 1.00000 0.000 5 1
640 x 7482 7281 1 0.00000 0.02600 480.0 1.250 -8 8 0 1.00000 0.000 5 1
641 x 8414 8239 1 0.00000 0.01968 630.0 1.250 -8 8 0 1.00000 0.000 5 1
642 x 7485 7284 1 0.00000 0.02600 480.0 1.250 -8 8 0 1.00000 0.000 5 1
643 x 3135 2010 1 0.00000 0.03230 50.0 1.250 -8 8 0 1.00000 0.000 5 1
644 x 8003 8423 1 0.00000 0.01800 1235.0 1.250 -8 8 0 1.00000 0.000 5 1
645 x 7243 7142 1 0.00000 0.03000 400.0 1.250 -8 8 0 1.00000 0.000 5 1
646 x 8010 8235 1 0.00000 0.01250 1000.0 1.250 -8 8 0 1.00000 0.000 5 1
647 x 8416 8201 1 0.00000 0.02500 500.0 1.250 -8 8 0 1.00000 0.000 5 1
648 x 8016 8203 1 0.00000 0.03210 400.0 1.250 -8 8 0 1.00000 0.000 5 1
649 x 7245 7144 1 0.00000 0.04200 300.0 1.250 -8 8 0 1.00000 0.000 5 1
650 x 8019 8229 1 0.00000 0.14300 150.0 1.250 -8 8 0 1.00000 0.000 5 1
651 x 8417 8020 1 0.00000 0.02232 500.0 1.250 -8 8 0 1.00000 0.000 5 1
652 x 2002 2217 1 0.00000 0.01830 750.0 1.250 -8 8 0 1.00000 0.000 5 1
653 x 3135 2009 1 0.00000 0.20000 50.0 1.250 -8 8 0 1.00000 0.000 5 1
654 x 6257 6159 1 0.00000 0.13500 100.0 1.250 -8 8 0 1.00000 0.000 5 1
655 x 7138 7239 1 0.00000 0.04200 300.0 1.250 -8 8 0 1.00000 0.000 5 1
656 x 6406 6211 1 0.00000 0.01740 750.0 1.250 -8 8 0 1.00000 0.000 5 1
657 x 8419 8220 1 0.00000 0.01320 945.0 1.250 -8 8 0 1.00000 0.000 5 1
658 x 8202 8415 1 0.00000 0.01980 630.0 1.250 -8 8 0 1.00000 0.000 5 1
659 x 7248 7147 1 0.00000 0.06250 200.0 1.250 -8 8 0 1.00000 0.000 5 1
660 x 7006 7271 1 0.00000 0.03090 300.0 1.250 -8 8 0 1.00000 0.000 5 1
661 x 4223 4122 1 0.00000 0.12500 100.0 1.250 -8 8 0 1.00000 0.000 5 1
662 x 7010 7468 1 0.00000 0.01200 1200.0 1.250 -8 8 0 1.00000 0.000 5 1
663 x 2004 2015 1 0.00000 0.05650 240.0 1.250 -8 8 0 1.00000 0.000 5 1
664 x 7013 7299 1 0.00000 0.12030 200.0 1.250 -8 8 0 1.00000 0.000 5 1
665 x 4201 4409 1 0.00000 0.01350 900.0 1.250 -8 8 0 1.00000 0.000 5 1
666 x 7018 7468 1 0.00000 0.01980 700.0 1.250 -8 8 0 1.00000 0.000 5 1
667 x 3220 3119 1 0.00000 0.12500 100.0 1.250 -8 8 0 1.00000 0.000 5 1
668 x 8205 8017 1 0.00000 0.06660 225.0 1.250 -8 8 0 1.00000 0.000 5 1
669 x 3144 3217 1 0.00000 0.04200 300.0 1.250 -8 8 0 1.00000 0.000 5 1
670 x 3247 3008 1 0.00000 0.04800 500.0 1.250 -8 8 0 1.00000 0.000 5 1
671 x 3115 3009 1 0.00000 0.09290 80.0 1.250 -8 8 0 1.00000 0.000 5 1
672 x 8210 8022 1 0.00000 0.02760 500.0 1.250 -8 8 0 1.00000 0.000 5 1
673 x 1104 1001 1 0.00000 0.08330 120.0 1.250 -8 8 0 1.00000 0.000 5 1
674 x 7225 7426 1 0.00000 0.02600 480.0 1.250 -8 8 0 1.00000 0.000 5 1
675 x 7252 7151 1 0.00000 0.04170 300.0 1.250 -8 8 0 1.00000 0.000 5 1
676 x 8221 8001 1 0.00000 0.02780 360.0 1.250 -8 8 0 1.00000 0.000 5 1
677 x 2015 2216 1 0.00000 0.08300 200.0 1.250 -8 8 0 1.00000 0.000 5 1
678 x 4001 4211 1 0.00000 0.01430 950.0 1.250 -8 8 0 1.00000 0.000 5 1
679 x 7149 7021 1 0.00000 0.28700 90.0 1.250 -8 8 0 1.00000 0.000 5 1

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680 x 4002 4219 1 0.00000 0.05164 225.0 1.250 -8 8 0 1.00000 0.000 5 1
681 x 3222 3121 1 0.00000 0.04170 300.0 1.250 -8 8 0 1.00000 0.000 5 1
682 x 7123 7020 1 0.00000 0.46000 105.0 1.250 -8 8 0 1.00000 0.000 5 1
683 x 7255 7154 1 0.00000 0.06250 200.0 1.250 -8 8 0 1.00000 0.000 5 1
684 x 8231 8431 1 0.00000 0.01980 630.0 1.250 -8 8 0 1.00000 0.000 5 1
685 x 7149 7250 1 0.00000 0.06250 200.0 1.250 -8 8 0 1.00000 0.000 5 1
686 x 8234 8426 1 0.00000 0.01980 630.0 1.250 -8 8 0 1.00000 0.000 5 1
687 x 2216 2003 1 0.00000 0.04380 360.0 1.250 -8 8 0 1.00000 0.000 5 1
688 x 8235 8424 1 0.00000 0.01250 1000.0 1.250 -8 8 0 1.00000 0.000 5 1
689 x 7150 7281 1 0.00000 0.06250 200.0 1.250 -8 8 0 1.00000 0.000 5 1
690 x 8236 8009 1 0.00000 0.03260 160.0 1.250 -8 8 0 1.00000 0.000 5 1
691 x 6211 6111 1 0.00000 0.13500 100.0 1.250 -8 8 0 1.00000 0.000 5 1
692 x 8238 8424 1 0.00000 0.01500 1000.0 1.250 -8 8 0 1.00000 0.000 5 1
693 x 7156 7257 1 0.00000 0.06250 200.0 1.250 -8 8 0 1.00000 0.000 5 1
694 x 6118 6219 1 0.00000 0.12500 100.0 1.250 -8 8 0 1.00000 0.000 5 1
695 x 3211 3112 1 0.00000 0.13500 100.0 1.250 -8 8 0 1.00000 0.000 5 1
696 x 3119 3004 1 0.00000 0.10480 120.0 1.250 -8 8 0 1.00000 0.000 5 1
697 x 1203 1108 1 0.00000 0.04800 240.0 1.250 -8 8 0 1.00000 0.000 5 1
698 x 6221 6001 1 0.00000 0.04460 250.0 1.250 -8 8 0 1.00000 0.000 5 1
699 x 7158 7259 1 0.00000 0.03960 400.0 1.250 -8 8 0 1.00000 0.000 5 1
700 x 4217 4410 1 0.00000 0.02500 500.0 1.250 -8 8 0 1.00000 0.000 5 1
701 x 5004 5206 1 0.00000 0.12700 120.0 1.250 -8 8 0 1.00000 0.000 5 1
702 x 6228 6129 1 0.00000 0.06250 200.0 1.250 -8 8 0 1.00000 0.000 5 1
703 x 1135 1204 1 0.00000 0.04218 320.0 1.250 -8 8 0 1.00000 0.000 5 1
704 x 6123 6004 1 0.00000 0.08620 120.0 1.250 -8 8 0 1.00000 0.000 5 1
705 x 1119 1005 1 0.00000 0.56020 24.0 1.250 -8 8 0 1.00000 0.000 5 1
706 x 6233 6132 1 0.00000 0.04170 300.0 1.250 -8 8 0 1.00000 0.000 5 1
707 x 7263 7004 1 0.00000 0.04800 250.0 1.250 -8 8 0 1.00000 0.000 5 1
708 x 7206 7119 1 0.00000 0.12500 100.0 1.250 -8 8 0 1.00000 0.000 5 1
709 x 9004 9209 1 0.00000 0.10200 150.0 1.250 -8 8 0 1.00000 0.000 5 1
710 x 8013 8433 1 0.00000 0.01080 1200.0 1.250 -8 8 0 1.00000 0.000 5 1
711 x 9005 9109 1 0.00000 0.15720 80.0 1.250 -8 8 0 1.00000 0.000 5 1
712 x 6124 6225 1 0.00000 0.04200 300.0 1.250 -8 8 0 1.00000 0.000 5 1
713 x 9006 9112 1 0.00000 0.15720 70.0 1.250 -8 8 0 1.00000 0.000 5 1
714 x 6127 6226 1 0.00000 0.05000 200.0 1.250 -8 8 0 1.00000 0.000 5 1
715 x 3226 3114 1 0.00000 0.06250 200.0 1.250 -8 8 0 1.00000 0.000 5 1
716 x 7005 7257 1 0.00000 0.03355 645.0 1.250 -8 8 0 1.00000 0.000 5 1
717 x 5427 5213 1 0.00000 0.01990 630.0 1.250 -8 8 0 1.00000 0.000 5 1
718 x 7012 7298 1 0.00000 0.08000 105.0 1.250 -8 8 0 1.00000 0.000 5 1
719 x 7265 7164 1 0.00000 0.03120 400.0 1.250 -8 8 0 1.00000 0.000 5 1
720 x 5212 8435 1 0.00000 0.00990 1260.0 1.250 -8 8 0 1.00000 0.000 5 1
721 x 7265 7003 1 0.00000 0.04860 310.0 1.250 -8 8 0 1.00000 0.000 5 1
722 x 7119 7019 1 0.00000 0.28700 150.0 1.250 -8 8 0 1.00000 0.000 5 1
723 x 7265 7466 1 0.00000 0.02600 480.0 1.250 -8 8 0 1.00000 0.000 5 1
724 x 3232 3011 1 0.00000 0.01470 900.0 1.250 -8 8 0 1.00000 0.000 5 1
725 x 1106 1207 1 0.00000 0.06250 200.0 1.250 -8 8 0 1.00000 0.000 5 1
726 x 7229 7128 1 0.00000 0.12500 100.0 1.250 -8 8 0 1.00000 0.000 5 1
727 x 9120 9220 1 0.00000 0.10500 120.0 1.250 -8 8 0 1.00000 0.000 5 1

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728 x 7234 7133 1 0.00000 0.12500 100.0 1.250 -8 8 0 1.00000 0.000 5 1
729 x 2419 2006 1 0.00000 0.03890 540.0 1.250 -8 8 0 1.00000 0.000 5 1
730 x 8234 8007 1 0.00000 0.08680 220.0 1.250 -8 8 0 1.00000 0.000 5 1
731 x 7170 7008 1 0.00000 0.11100 120.0 1.250 -8 8 0 1.00000 0.000 5 1
732 x 8238 8012 1 0.00000 0.03380 320.0 1.250 -8 8 0 1.00000 0.000 5 1
733 x 6002 6221 1 0.00000 0.01833 660.0 1.250 -8 8 0 1.00000 0.000 5 1
734 x 5206 5001 1 0.00000 0.08090 330.0 1.250 -8 8 0 1.00000 0.000 5 1
735 x 7271 7007 1 0.00000 0.01400 360.0 1.250 -8 8 0 1.00000 0.000 5 1
736 x 1141 1206 1 0.00000 0.04300 320.0 1.250 -8 8 0 1.00000 0.000 5 1
737 x 7176 7277 1 0.00000 0.06250 200.0 1.250 -8 8 0 1.00000 0.000 5 1
738 x 7472 7009 1 0.00000 0.01230 1125.0 1.250 -8 8 0 1.00000 0.000 5 1
739 x 6003 6122 1 0.00000 0.05687 120.0 1.250 -8 8 0 1.00000 0.000 5 1
740 x 3230 3129 1 0.00000 0.04200 300.0 1.250 -8 8 0 1.00000 0.000 5 1
741 x 7271 7472 1 0.00000 0.02600 480.0 1.250 -8 8 0 1.00000 0.000 5 1
742 x 8018 8418 1 0.00000 0.03625 600.0 1.250 -8 8 0 1.00000 0.000 5 1
743 x 7271 7169 1 0.00000 0.06250 200.0 1.250 -8 8 0 1.00000 0.000 5 1
744 x 3135 2007 1 0.00000 0.20000 50.0 1.250 -8 8 0 1.00000 0.000 5 1
745 x 1228 1137 1 0.00000 0.02600 480.0 1.250 -8 8 0 1.00000 0.000 5 1
746 x 7017 7286 1 0.00000 0.01600 875.0 1.250 -8 8 0 1.00000 0.000 5 1
747 x 7178 7279 1 0.00000 0.06250 200.0 1.250 -8 8 0 1.00000 0.000 5 1
748 x 8221 8002 1 0.00000 0.06460 450.0 1.250 -8 8 0 1.00000 0.000 5 1
749 x 6101 6006 1 0.00000 0.38250 75.0 1.250 -8 8 0 1.00000 0.000 5 1
750 x 7231 7130 1 0.00000 0.12500 100.0 1.250 -8 8 0 1.00000 0.000 5 1
751 x 7181 7288 1 0.00000 0.06250 200.0 1.250 -8 8 0 1.00000 0.000 5 1
752 x 8236 8008 1 0.00000 0.03200 300.0 1.250 -8 8 0 1.00000 0.000 5 1
753 x 3005 3149 1 0.00000 0.06880 160.0 1.250 -8 8 0 1.00000 0.000 5 1
754 x 6120 6221 1 0.00000 0.03330 400.0 1.250 -8 8 0 1.00000 0.000 5 1
755 x 7274 7173 1 0.00000 0.03000 400.0 1.250 -8 8 0 1.00000 0.000 5 1
756 x 6230 6131 1 0.00000 0.05000 200.0 1.250 -8 8 0 1.00000 0.000 5 1
757 x 6109 6209 1 0.00000 0.13500 100.0 1.250 -8 8 0 1.00000 0.000 5 1
758 x 7208 7407 1 0.00000 0.03960 315.0 1.250 -8 8 0 1.00000 0.000 5 1
759 x 7183 7284 1 0.00000 0.04170 300.0 1.250 -8 8 0 1.00000 0.000 5 1
760 x 8209 8023 1 0.00000 0.02840 500.0 1.250 -8 8 0 1.00000 0.000 5 1
761 x 7189 7011 1 0.00000 0.03500 360.0 1.250 -8 8 0 1.00000 0.000 5 1
762 x 8234 8006 1 0.00000 0.02953 480.0 1.250 -8 8 0 1.00000 0.000 5 1
763 x 7279 7480 1 0.00000 0.05200 240.0 1.250 -8 8 0 1.00000 0.000 5 1
764 x 2218 2005 1 0.00000 0.06940 540.0 1.250 -8 8 0 1.00000 0.000 5 1
765 x 9208 9107 1 0.00000 0.15600 80.0 1.250 -8 8 0 1.00000 0.000 5 1
766 x 8203 8021 1 0.00000 0.03210 400.0 1.250 -8 8 0 1.00000 0.000 5 1
767 x 6217 6116 1 0.00000 0.12500 100.0 1.250 -8 8 0 1.00000 0.000 5 1
768 x 3007 3232 1 0.00000 0.01990 1575.0 1.250 -8 8 0 1.00000 0.000 5 1
769 x 3118 3006 1 0.00000 0.05240 270.0 1.250 -8 8 0 1.00000 0.000 5 1
770 x 7121 7222 1 0.00000 0.12500 100.0 1.250 -8 8 0 1.00000 0.000 5 1
771 x 5206 5003 1 0.00000 0.07815 170.0 1.250 -8 8 0 1.00000 0.000 5 1
772 x 8004 8423 1 0.00000 0.01270 1176.0 1.250 -8 8 0 1.00000 0.000 5 1
773 x 9210 9112 1 0.00000 0.06250 200.0 1.250 -8 8 0 1.00000 0.000 5 1

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6 Voltage Control Busbar Data:

1	1001	10.000	105.000	-8.000	48.000	1.0000	0.9000	1.0500
2	1005	3.000	22.000	-5.000	15.000	1.0000	0.9000	1.0500
3	1006	5.000	23.000	-2.000	8.000	1.0000	0.9000	1.0500
4	2001	20.000	360.000	-15.000	90.000	1.0000	0.9000	1.0500
5	2002	30.000	660.000	-40.000	240.000	1.0000	0.9000	1.0500
6	2003	30.000	324.000	-20.000	120.000	1.0000	0.9000	1.0500
7	2004	10.000	216.000	-15.000	90.000	1.0000	0.9000	1.0500
8	2005	30.000	495.000	-30.000	180.000	1.0000	0.9000	1.0500
9	2006	30.000	495.000	-30.000	180.000	1.0000	0.9000	1.0500
10	2007	5.000	39.000	-2.000	12.000	1.0000	0.9000	1.0500
11	2008	5.000	39.000	-2.000	12.000	1.0000	0.9000	1.0500
12	2009	5.000	39.000	-2.000	12.000	1.0000	0.9000	1.0500
13	2010	5.000	39.000	-2.000	12.000	1.0000	0.9000	1.0500
14	3004	5.000	90.000	-6.000	36.000	1.0000	0.9000	1.0500
15	3005	10.000	134.000	-8.000	45.000	1.0000	0.9000	1.0500
16	3006	10.000	207.000	-12.000	72.000	0.9900	0.9000	1.0500
17	3007	60.000	0.000	-43.000	258.000	1.0000	0.9000	1.0500
18	3008	20.000	440.000	-40.000	240.000	1.0000	0.9000	1.0500
19	3009	10.000	110.000	-7.000	39.000	1.0000	0.9000	1.0500
20	3011	30.000	840.000	-71.000	426.000	1.0000	0.9000	1.0500
21	4001	50.000	860.000	-77.000	462.000	1.0000	0.9000	1.0500
22	4003	5.000	48.000	-3.000	18.000	1.0000	0.9000	1.0500
23	5001	10.000	284.100	-20.000	120.000	0.9750	0.9000	1.0500
24	5002	10.000	180.000	-11.000	80.000	0.9750	0.9000	1.0500
25	5003	10.000	150.000	-12.000	72.000	0.9750	0.9000	1.0500
26	5004	10.000	102.000	-9.000	54.000	0.9750	0.9000	1.0500
27	6001	10.000	220.000	-18.000	108.000	1.0000	0.9000	1.0500
28	6002	20.000	630.000	-58.000	348.000	1.0000	0.9000	1.0500
29	6003	5.000	86.000	-5.000	28.000	1.0000	0.9000	1.0500
30	6004	5.000	49.500	-3.000	15.000	1.0000	0.9000	1.0500
31	6005	10.000	140.000	-8.000	48.000	1.0000	0.9000	1.0500
32	6006	5.000	57.500	-3.000	18.000	1.0000	0.9000	1.0500
33	6008	10.000	100.000	-10.000	60.000	1.0000	0.9000	1.0500
34	7002	10.000	144.000	-5.000	30.000	0.9750	0.9000	1.0500
35	7003	20.000	284.000	-17.000	102.000	0.9900	0.9000	1.0500
36	7004	20.000	220.000	-15.000	90.000	1.0000	0.9000	1.0500
37	7006	15.000	250.000	-16.000	96.000	1.0000	0.9000	1.0500
38	7007	15.000	300.000	-23.000	135.000	1.0000	0.9000	1.0500
39	7008	5.000	99.000	-3.000	18.000	1.0000	0.9000	1.0500
40	7009	50.000	0.000	-80.000	480.000	1.0000	0.9000	1.0500
41	7010	50.000	500.000	-45.000	270.000	1.0000	0.9000	1.0500
42	7011	20.000	300.000	-8.000	45.000	1.0000	0.9000	1.0500
43	7013	15.000	240.000	-12.000	72.000	1.0000	0.9000	1.0500
44	7017	30.000	770.000	-64.000	384.000	1.0000	0.9000	1.0500
45	7018	60.000	0.000	-90.000	540.000	1.0000	0.9000	1.0500
46	7019	10.000	120.000	-4.000	24.000	1.0000	0.9000	1.0500
47	7020	5.000	84.750	-3.000	15.000	1.0000	0.9000	1.0500
48	7021	10.000	72.000	-4.000	24.000	1.0000	0.9000	1.0500

49	8001	30.000	300.000	-20.000	120.000	0.9700	0.9000	1.0500
50	8002	30.000	420.000	-25.000	150.000	0.9750	0.9000	1.0500
51	8003	50.000	0.000	-90.000	540.000	1.0500	0.9000	1.0500
52	8004	50.000	0.000	-90.000	540.000	1.0500	0.9000	1.0500
53	8006	20.000	448.000	-30.000	180.000	1.0000	0.9000	1.0500
54	8007	10.000	204.000	-20.000	120.000	1.0000	0.9000	1.0500
55	8008	10.000	264.000	-20.000	120.000	1.0000	0.9000	1.0500
56	8009	10.000	150.000	-15.000	90.000	1.0000	0.9000	1.0500
57	8010	40.000	840.000	-42.000	420.000	1.0000	0.9000	1.0500
58	8011	40.000	524.000	-40.000	240.000	1.0000	0.9000	1.0500
59	8012	20.000	293.000	-20.000	120.000	1.0000	0.9000	1.0500
60	8013	50.000	0.000	-90.000	540.000	1.0200	0.9000	1.0500
61	8015	20.000	420.000	-40.000	220.000	1.0000	0.9000	1.0500
62	8016	30.000	690.000	-18.000	105.000	1.0000	0.9000	1.0500
63	8017	10.000	180.000	-10.000	60.000	1.0000	0.9000	1.0500
64	8018	20.000	540.000	-28.000	168.000	1.0160	0.9000	1.0500
65	8019	10.000	120.000	-8.000	48.000	1.0000	0.9000	1.0500
66	8020	30.000	480.000	-30.000	180.000	1.0000	0.9000	1.0500
67	8021	10.000	175.000	-18.000	105.000	1.0000	0.9000	1.0500
68	8022	20.000	440.000	-30.000	180.000	1.0000	0.9000	1.0500
69	8023	20.000	470.000	-25.000	150.000	0.9750	0.9000	1.0500
70	9004	10.000	147.000	-14.000	84.000	1.0000	0.9000	1.0500
71	9005	5.000	60.000	-5.000	29.000	1.0000	0.9000	1.0500
72	9006	5.000	60.000	-5.000	27.000	1.0000	0.9000	1.0500

7 Slack or Swing Busbar Data:

1	7005	10.000	540.000	-30.000	200.000	1.0000
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8 Shunt Capacitor/Reactor Data:

1	1108	0.00000	0.10000	1
2	1118	0.00000	0.25000	1
3	1120	0.00000	0.20000	1
4	1129	0.00000	0.30000	1
5	3115	0.00000	0.10000	1
6	3116	0.00000	0.10000	1
7	3118	0.00000	0.25000	1
8	3119	0.00000	0.40000	1
9	3121	0.00000	0.70000	1
10	3129	0.00000	0.70000	1
11	3133	0.00000	0.40000	1
12	3135	0.00000	0.30000	1
13	3144	0.00000	0.60000	1
14	3148	0.00000	0.40000	1
15	3213	0.00000	0.15000	1
16	3214	0.00000	0.06000	1
17	3217	0.00000	0.80000	1
18	3226	0.00000	0.02000	1
19	3227	0.00000	0.50000	1

20	3229	0.00000	0.40000	1
21	3230	0.00000	0.15000	1
22	3236	0.00000	0.30000	1
23	3237	0.00000	0.85000	1
24	3242	0.00000	0.30000	1
25	3246	0.00000	0.20000	1
26	3247	0.00000	0.70000	1
27	3250	0.00000	0.21000	1
28	4106	0.00000	0.70000	1
29	4201	0.00000	0.60000	1
30	4204	0.00000	0.40000	1
31	4208	0.00000	0.50000	1
32	4212	0.00000	0.60000	1
33	4213	0.00000	0.45000	1
34	4214	0.00000	0.41000	1
35	4215	0.00000	0.63000	1
36	4216	0.00000	0.70000	1
37	4217	0.00000	0.20000	1
38	4218	0.00000	0.60000	1
39	4219	0.00000	1.80000	1
40	4220	0.00000	0.30000	1
41	4224	0.00000	0.80000	1
42	4409	0.00000	-0.63000	1
43	4410	0.00000	-0.45000	1
44	5204	0.00000	1.00000	1
45	5205	0.00000	1.05000	1
46	5206	0.00000	1.20000	1
47	5207	0.00000	0.30000	1
48	5208	0.00000	0.75000	1
49	5209	0.00000	1.50000	1
50	5210	0.00000	1.00000	1
51	5211	0.00000	0.49000	1
52	5216	0.00000	0.30000	1
53	5217	0.00000	0.30000	1
54	5218	0.00000	0.50000	1
55	5222	0.00000	1.10000	1
56	5223	0.00000	0.30000	1
57	5225	0.00000	0.20000	1
58	5226	0.00000	0.20000	1
59	6120	0.00000	0.80000	1
60	6124	0.00000	0.80000	1
61	6127	0.00000	0.50000	1
62	6129	0.00000	0.50000	1
63	6131	0.00000	0.40000	1
64	6132	0.00000	1.00000	1
65	6208	0.00000	1.00000	1
66	6209	0.00000	0.65000	1
67	6210	0.00000	1.20000	1

68	6211	0.00000	3.02000	1
69	6212	0.00000	0.35000	1
70	6213	0.00000	0.20000	1
71	6219	0.00000	0.20000	1
72	6221	0.00000	0.30000	1
73	6228	0.00000	0.15000	1
74	6230	0.00000	0.50000	1
75	6256	0.00000	0.40000	1
76	7121	0.00000	0.30000	1
77	7124	0.00000	0.40000	1
78	7128	0.00000	0.50000	1
79	7130	0.00000	0.75000	1
80	7132	0.00000	0.70000	1
81	7133	0.00000	1.20000	1
82	7135	0.00000	1.00000	1
83	7138	0.00000	0.70000	1
84	7142	0.00000	1.00000	1
85	7144	0.00000	1.00000	1
86	7147	0.00000	1.10000	1
87	7149	0.00000	1.20000	1
88	7150	0.00000	0.80000	1
89	7151	0.00000	0.80000	1
90	7154	0.00000	0.50000	1
91	7156	0.00000	0.90000	1
92	7158	0.00000	1.20000	1
93	7164	0.00000	1.25000	1
94	7173	0.00000	0.90000	1
95	7176	0.00000	0.50000	1
96	7178	0.00000	0.50000	1
97	7181	0.00000	0.80000	1
98	7183	0.00000	0.90000	1
99	7190	0.00000	0.40000	1
100	7192	0.00000	0.90000	1
101	7193	0.00000	0.30000	1
102	7194	0.00000	0.60000	1
103	7196	0.00000	0.70000	1
104	7207	0.00000	0.50000	1
105	7229	0.00000	0.30000	1
106	7234	0.00000	0.60000	1
107	7236	0.00000	1.00000	1
108	7241	0.00000	0.50000	1
109	7243	0.00000	0.30000	1
110	7261	0.00000	0.70000	1
111	7262	0.00000	1.20000	1
112	7263	0.00000	0.70000	1
113	7265	0.00000	0.50000	1
114	7277	0.00000	0.60000	1
115	7284	0.00000	1.00000	1

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116 7287 0.00000 0.25000 1
117 7288 0.00000 0.50000 1
118 7426 0.00000 -0.45000 1
119 7437 0.00000 -0.45000 1
120 7440 0.00000 -0.45000 1
121 7446 0.00000 -0.45000 1
122 7468 0.00000 -2.30000 1
123 7482 0.00000 -0.45000 1
124 8413 0.00000 -0.45000 1
125 8417 0.00000 -0.45000 1
126 8419 0.00000 -0.72000 1
127 8422 0.00000 -0.80000 1
128 8424 0.00000 4.03000 1
129 8425 0.00000 -0.45000 1
130 8430 0.00000 -0.45000 1
131 8431 0.00000 -0.72000 1
132 8433 0.00000 4.50000 1
133 8435 0.00000 -0.45000 1
134 9107 0.00000 1.20000 1
135 9109 0.00000 0.40000 1
136 9110 0.00000 0.20000 1
137 9112 0.00000 0.30000 1

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9 Static Var System Data:

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1 8431 -1.40000 1.40000 0.07000 0.03500 1.00000 1 1

```

10 Phase Shifter Data:

11 HVDC System Data:

```

4 2
1 8501 RHVDC-1 500.00 1 1 1
1 2 8433 1 1
1 8433 400.000 213.000 0.340 9.000 4 1
0.00 0.00 250.00 0.00 0.00 300.00 0.00 0.00 1.20
0.0130 -8 8 0 12.500 17.500 0.000
0.00 0.00 0.00 0.0000 0.00 0.00 0.0000 0.00 0.00 0.00
0.000 0.000 0.000 0.000 0.000 0.000
2 8433 400.000 213.000 0.340 9.000 4 1
0.00 0.00 250.00 0.00 0.00 300.00 0.00 0.00 1.20
0.0130 -8 8 0 12.500 17.500 0.000
0.00 0.00 0.00 0.0000 0.00 0.00 0.0000 0.00 0.00 0.00
0.000 0.000 0.000 0.000 0.000 0.000
2 8502 RHVDC-2 500.00 1 1 1
1 2 8433 1 1
1 8433 400.000 213.000 0.340 9.000 4 1
0.00 0.00 250.00 0.00 0.00 300.00 0.00 0.00 1.20
0.0130 -8 8 0 12.500 17.500 0.000
0.00 0.00 0.00 0.0000 0.00 0.00 0.0000 0.00 0.00 0.00

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0.000 0.000 0.000 0.000 0.000 0.000
2 8433 400.000 213.000 0.340 9.000 4 1
0.00 0.00 250.00 0.00 0.00 300.00 0.00 0.00 1.20
0.0130 -8 8 0 12.500 17.500 0.000
0.00 0.00 0.00 0.0000 0.00 0.00 0.0000 0.00 0.00 0.00
0.000 0.000 0.000 0.000 0.000 0.000
3 8505 DHVDC-1 500.00 -1 1 1
1 2 8424 1 1
1 8424 400.000 206.000 0.340 8.500 2 1
0.00 0.00 250.00 0.00 0.00 250.00 0.00 0.00 0.00
0.0125 -8 8 0 17.000 17.500 0.000
0.00 0.00 0.00 0.0000 0.00 0.00 0.0000 0.00 0.00 0.00
0.000 0.000 0.000 0.000 0.000 0.000
2 8424 400.000 206.000 0.340 8.500 2 1
0.00 0.00 250.00 0.00 0.00 250.00 0.00 0.00 0.00
0.0125 -8 8 0 17.000 17.500 0.000
0.00 0.00 0.00 0.0000 0.00 0.00 0.0000 0.00 0.00 0.00
0.000 0.000 0.000 0.000 0.000 0.000
4 8506 DHVDC-2 500.00 -1 1 1
1 2 8424 1 1
1 8424 400.000 206.000 0.340 8.500 2 1
0.00 0.00 250.00 0.00 0.00 250.00 0.00 0.00 0.00
0.0130 -8 8 0 17.000 17.500 0.000
0.00 0.00 0.00 0.0000 0.00 0.00 0.0000 0.00 0.00 0.00
0.000 0.000 0.000 0.000 0.000 0.000
2 8424 400.000 206.000 0.340 8.500 2 1
0.00 0.00 250.00 0.00 0.00 250.00 0.00 0.00 0.00
0.0130 -8 8 0 17.000 17.500 0.000
0.00 0.00 0.00 0.0000 0.00 0.00 0.0000 0.00 0.00 0.00
0.000 0.000 0.000 0.000 0.000 0.000
1 8506 8502 1 10.672 1
2 8505 8501 1 10.672 1

```

B.2 Generating Stations System Data File

76

```

1 8020 4 8 1
1 802001 0 1 1
11.00 125.00 0.800 0.8000 120.00 8.00 45.00 -7.50 75.00 1.000
2.00 3.00 0.1500 0.6000 2.500 125.4 4.880 0.0080 0.2110 0.0220
0.205 0.271 0.928 0.220 0.500 0.609 0.116 0.0100 0.380 0.000
0.035 0.882 0.0500 8.430 0.035 0.534 0.070 1.500 0.177
1 0 1 1 1 0 4 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
120.00 0.00

```

```

2 802002      0      1      1
  11.00 125.00  0.800 0.8000 120.00   8.00  45.00  -7.50  75.00  1.000
    2.00   3.00  0.1500 0.6000  2.500 125.4  4.880  0.0080 0.2110 0.0220
    0.205 0.271  0.928  0.220  0.500 0.609  0.116  0.0100  0.380  0.000
    0.035 0.882 0.0500  8.430  0.035 0.534  0.070   1.500  0.177
      1      0      1      1      1      0      4      0
    0.00  0.00  0.00  0.00  0.00  0.00
    0.00  0.00  0.00  0.00  0.00  0.00
120.00  0.00
3 802003      0      1      1
  11.00 125.00  0.800 0.8000 120.00   8.00  45.00  -7.50  75.00  1.000
    2.00   3.00  0.1500 0.6000  2.500 125.4  4.880  0.0080 0.2110 0.0220
    0.205 0.271  0.928  0.220  0.500 0.609  0.116  0.0100  0.380  0.000
    0.035 0.882 0.0500  8.430  0.035 0.534  0.070   1.500  0.177
      1      0      1      1      1      0      4      0
    0.00  0.00  0.00  0.00  0.00  0.00
    0.00  0.00  0.00  0.00  0.00  0.00
120.00  0.00
4 802004      0      1      1
  11.00 125.00  0.800 0.8000 120.00   8.00  45.00  -7.50  75.00  1.000
    2.00   3.00  0.1500 0.6000  2.500 125.4  4.880  0.0080 0.2110 0.0220
    0.205 0.271  0.928  0.220  0.500 0.609  0.116  0.0100  0.380  0.000
    0.035 0.882 0.0500  8.430  0.035 0.534  0.070   1.500  0.177
      1      0      1      1      1      0      4      0
    0.00  0.00  0.00  0.00  0.00  0.00
    0.00  0.00  0.00  0.00  0.00  0.00
120.00  0.00
2 3008 4      3      1
1 300801      0      1      1
  11.00 125.00  0.800 0.8000 110.00   5.00  60.00 -10.00 100.00  1.000
    2.00   5.00  0.1500 0.6000  2.500 125.4  5.600  0.0170 0.1340 0.0220
    0.225 0.303  1.970  0.220  0.490 1.890  0.153  0.0100  0.375  0.000
    0.035 0.882 0.0500  6.840  0.035 0.534  0.050   1.000  0.177
      1      0      1      1      1      0      4      0
    0.00  0.00  0.00  0.00  0.00  0.00
    0.00  0.00  0.00  0.00  0.00  0.00
110.00  0.00
2 300802      0      1      1
  11.00 125.00  0.800 0.8000 110.00   5.00  60.00 -10.00 100.00  1.000
    2.00   5.00  0.1500 0.6000  2.500 125.4  5.600  0.0170 0.1340 0.0220
    0.225 0.303  1.970  0.220  0.490 1.890  0.153  0.0100  0.375  0.000
    0.035 0.882 0.0500  6.840  0.035 0.534  0.050   1.000  0.177
      1      0      1      1      1      0      4      0
    0.00  0.00  0.00  0.00  0.00  0.00
    0.00  0.00  0.00  0.00  0.00  0.00
110.00  0.00
3 300803      0      1      1
  11.00 125.00  0.800 0.8000 110.00   5.00  60.00 -10.00 100.00  1.000

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    2.00  5.00 0.1500 0.6000  2.500 125.4  5.600  0.0170 0.1340 0.0220
    0.225 0.303 1.970  0.220  0.490  1.890  0.153  0.0100 0.375  0.000
    0.035 0.882 0.0500 6.840  0.035 0.534  0.050  1.000  0.177
      1    0    1    1    1    0    4    0
    0.00  0.00  0.00  0.00  0.00  0.00
    0.00  0.00  0.00  0.00  0.00  0.00
110.00  0.00
4 300804    0    1    1
    11.00 125.00  0.800 0.8000 110.00  5.00  60.00 -10.00 100.00  1.000
      2.00  5.00 0.1500 0.6000  2.500 125.4  5.600  0.0170 0.1340 0.0220
    0.225 0.303 1.970  0.220  0.490  1.890  0.153  0.0100 0.375  0.000
    0.035 0.882 0.0500 6.840  0.035 0.534  0.050  1.000  0.177
      1    0    1    1    1    0    4    0
    0.00  0.00  0.00  0.00  0.00  0.00
    0.00  0.00  0.00  0.00  0.00  0.00
110.00  0.00
3  8016 6    8    1
1 801601    1    1    1
    11.00 125.00  0.800 0.8000 115.00  5.00  17.50  -3.00  29.00  1.000
      3.00  5.00 0.1500 0.6000  2.500 125.4  4.880  0.0080 0.2110 0.0220
    0.205 0.271 0.928  0.230  0.500  0.609  0.116  0.0100 0.380  0.000
    0.035 0.882 0.0500 8.430  0.035 0.534  0.070  1.500  0.177
      1    0    1    1    1    0    1    0
    0.00  0.00  0.00  0.00  0.00  0.00
    0.00  0.00  0.00  0.00  0.00  0.00
115.00  0.00
2 801602    1    1    1
    11.00 125.00  0.800 0.8000 115.00  5.00  17.50  -3.00  29.00  1.000
      3.00  5.00 0.1500 0.6000  2.500 125.4  4.880  0.0080 0.2110 0.0220
    0.205 0.271 0.928  0.230  0.500  0.609  0.116  0.0100 0.380  0.000
    0.035 0.882 0.0500 8.430  0.035 0.534  0.070  1.500  0.177
      1    0    1    1    1    0    1    0
    0.00  0.00  0.00  0.00  0.00  0.00
    0.00  0.00  0.00  0.00  0.00  0.00
115.00  0.00
3 801603    1    1    0
    11.00 125.00  0.800 0.8000 115.00  5.00  17.50  -3.00  29.00  1.000
      3.00  5.00 0.1500 0.6000  2.500 125.4  4.880  0.0080 0.2110 0.0220
    0.205 0.271 0.928  0.230  0.500  0.609  0.116  0.0100 0.380  0.000
    0.035 0.882 0.0500 8.430  0.035 0.534  0.070  1.500  0.177
      1    0    1    1    1    0    1    0
    0.00  0.00  0.00  0.00  0.00  0.00
    0.00  0.00  0.00  0.00  0.00  0.00
115.00  0.00
4 801604    1    1    0
    11.00 125.00  0.800 0.8000 115.00  5.00  17.50  -3.00  29.00  1.000
      3.00  5.00 0.1500 0.6000  2.500 125.4  4.880  0.0080 0.2110 0.0220
    0.205 0.271 0.928  0.230  0.500  0.609  0.116  0.0100 0.380  0.000

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0.035 0.882 0.0500 8.430 0.035 0.534 0.070 1.500 0.177
  1      0      1      1      1      0      1      0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
115.00 0.00
5 801605      1      1      1
11.00 125.00 0.800 0.8000 115.00 5.00 17.50 -3.00 29.00 1.000
  3.00 5.00 0.1500 0.6000 2.500 125.4 4.880 0.0080 0.2110 0.0220
0.205 0.271 0.928 0.230 0.500 0.609 0.116 0.0100 0.380 0.000
0.035 0.882 0.0500 8.430 0.035 0.534 0.070 1.500 0.177
  1      0      1      1      1      0      1      0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
115.00 0.00
6 801606      1      1      1
11.00 125.00 0.800 0.8000 115.00 5.00 17.50 -3.00 29.00 1.000
  3.00 5.00 0.1500 0.6000 2.500 125.4 4.880 0.0080 0.2110 0.0220
0.205 0.271 0.928 0.230 0.500 0.609 0.116 0.0100 0.380 0.000
0.035 0.882 0.0500 8.430 0.035 0.534 0.070 1.500 0.177
  1      0      1      1      1      0      1      0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
115.00 0.00
4 8021 1      8      1
1 802101      0      1      1
11.00 250.00 0.800 0.8000 225.00 10.00 105.00 -18.00 175.00 1.000
  3.00 5.00 0.1000 0.8000 2.500 125.4 3.700 0.0080 0.2480 0.0220
0.230 0.338 2.225 0.220 0.556 2.110 0.100 0.0100 0.380 0.000
0.035 0.882 0.0400 7.000 0.035 0.534 0.200 2.500 0.177
  1      0      1      1      1      0      3      0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
175.00 0.00
5 6004 3      6      1
1 600401      1      1      1
11.00 20.00 0.800 0.8000 16.50 2.00 7.00 -2.00 8.50 1.000
  2.00 3.00 0.1500 0.6000 2.500 125.4 2.950 0.0300 0.4900 0.0220
0.200 0.294 1.150 0.190 0.500 0.720 0.140 0.0100 0.375 0.000
0.035 0.882 0.0500 6.690 0.035 0.534 0.100 1.500 0.177
  1      0      1      1      1      0      1      0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
16.50 0.00
2 600402      1      1      1
11.00 20.00 0.800 0.8000 16.50 2.00 7.00 -2.00 8.50 1.000
  2.00 3.00 0.1500 0.6000 2.500 125.4 2.950 0.0300 0.4900 0.0220
0.200 0.294 1.150 0.190 0.500 0.720 0.140 0.0100 0.375 0.000
0.035 0.882 0.0500 6.690 0.035 0.534 0.100 1.500 0.177

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      1      0      1      1      1      0      1      0
      0.00   0.00   0.00   0.00   0.00   0.00
      0.00   0.00   0.00   0.00   0.00   0.00
      16.50   0.00
3 600403      1      1      1
      11.00  20.00  0.800 0.8000  16.50   2.00   7.00  -2.00   8.50  1.000
      2.00   3.00  0.1500 0.6000  2.500  125.4  2.950  0.0300 0.4900 0.0220
      0.200  0.294  1.150  0.190  0.500  0.720  0.140  0.0100 0.375  0.000
      0.035  0.882  0.0500 6.690  0.035  0.534  0.100  1.500  0.177
      1      0      1      1      1      0      1      0
      0.00   0.00   0.00   0.00   0.00   0.00
      0.00   0.00   0.00   0.00   0.00   0.00
      16.50   0.00
6 1001 3      1      1
1 100101      1      1      1
      11.00  40.00  0.800 0.8000  35.00   4.00  16.00  -3.00  26.50  0.900
      2.00   5.00  0.1940 0.6850  2.030  107.9  2.600  0.0080 0.2970 0.1250
      0.288  0.318  0.990  0.306  0.615  0.600  0.224  0.0030 0.269  1.000
      0.035  1.700  0.0590 5.300  0.035  0.534  0.210  1.500  0.177
      1      0      1      1      1      0      1      0
      0.00   0.00   0.00   0.00   0.00   0.00
      0.00   0.00   0.00   0.00   0.00   0.00
      35.00   0.00
2 100102      1      1      1
      11.00  40.00  0.800 0.8000  35.00   4.00  16.00  -3.00  26.50  0.900
      2.00   5.00  0.1940 0.6850  2.030  107.9  2.600  0.0400 0.2970 0.1250
      0.288  0.318  0.990  0.306  0.615  0.600  0.224  0.0030 0.269  1.000
      0.035  1.700  0.0590 5.300  0.035  0.534  0.210  1.500  0.177
      1      0      1      1      1      0      1      0
      0.00   0.00   0.00   0.00   0.00   0.00
      0.00   0.00   0.00   0.00   0.00   0.00
      35.00   0.00
3 100103      1      1      1
      11.00  40.00  0.800 0.8000  35.00   4.00  16.00  -3.00  26.50  0.900
      2.00   5.00  0.1940 0.6850  2.030  107.9  2.600  0.0400 0.2970 0.1250
      0.288  0.318  0.990  0.306  0.615  0.600  0.224  0.0030 0.269  1.000
      0.035  1.700  0.0590 5.300  0.035  0.534  0.210  1.500  0.177
      1      0      1      1      1      0      1      0
      0.00   0.00   0.00   0.00   0.00   0.00
      0.00   0.00   0.00   0.00   0.00   0.00
      35.00   0.00
7 6003 4      6      1
1 600301      1      1      1
      11.00  30.00  0.800 0.8000  21.50   2.00   7.00  -2.00  11.50  1.000
      2.00   3.00  0.1500 0.6000  2.500  125.4  2.950  0.0400 0.2700 0.0220
      0.200  0.294  1.150  0.190  0.500  0.720  0.140  0.0100 0.375  0.000
      0.035  0.882  0.0500 6.690  0.035  0.534  0.100  1.500  0.177
      1      0      1      1      1      0      1      0

```

```

0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
21.50 0.00
2 600302 1 1 1
11.00 30.00 0.800 0.8000 21.50 2.00 7.00 -2.00 11.50 1.000
2.00 3.00 0.1500 0.6000 2.500 125.4 2.950 0.0400 0.2700 0.0220
0.200 0.294 1.150 0.190 0.500 0.720 0.140 0.0100 0.375 0.000
0.035 0.882 0.0500 6.690 0.035 0.534 0.100 1.500 0.177
1 0 1 1 1 0 1 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
21.50 0.00
3 600303 1 1 1
11.00 30.00 0.800 0.8000 21.50 2.00 7.00 -2.00 11.50 1.000
2.00 3.00 0.1500 0.6000 2.500 125.4 2.950 0.0400 0.2700 0.0220
0.200 0.294 1.150 0.190 0.500 0.720 0.140 0.0100 0.375 0.000
0.035 0.882 0.0500 6.690 0.035 0.534 0.100 1.500 0.177
1 0 1 1 1 0 1 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
21.50 0.00
4 600304 1 1 1
11.00 30.00 0.800 0.8000 21.50 2.00 7.00 -2.00 11.50 1.000
2.00 3.00 0.1500 0.6000 2.500 125.4 2.950 0.0400 0.2700 0.0220
0.200 0.294 1.150 0.190 0.500 0.720 0.140 0.0100 0.375 0.000
0.035 0.882 0.0500 6.690 0.035 0.534 0.100 1.500 0.177
1 0 1 1 1 0 1 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
21.50 0.00
8 6001 2 6 1
1 600101 0 1 1
11.00 125.00 0.800 0.8000 110.00 5.00 54.00 -9.00 90.00 1.000
3.00 5.00 0.0500 0.6000 2.500 125.4 5.600 0.0080 0.2110 0.0220
0.225 0.303 1.970 0.220 0.490 1.890 0.153 0.0100 0.375 0.000
0.035 0.882 0.0500 6.840 0.035 0.534 0.050 1.000 0.177
1 0 1 1 1 0 4 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
110.00 0.00
2 600102 0 1 0
11.00 125.00 0.800 0.8000 110.00 5.00 54.00 -9.00 90.00 1.000
3.00 5.00 0.0500 0.6000 2.500 125.4 5.600 0.0080 0.2110 0.0220
0.225 0.303 1.970 0.220 0.490 1.890 0.153 0.0100 0.375 0.000
0.035 0.882 0.0500 6.840 0.035 0.534 0.050 1.000 0.177
1 0 1 1 1 0 4 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00

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```

110.00 0.00
9 6002 3 6 1
1 600201 0 1 1
15.80 220.00 0.800 0.8000 210.00 7.00 116.00 -19.00 193.00 1.000
3.00 5.00 0.1000 0.8000 2.500 125.4 3.700 0.0080 0.2480 0.0220
0.200 0.290 2.120 0.250 0.556 2.000 0.100 0.0100 0.375 0.000
0.035 0.882 0.0400 7.000 0.035 0.534 0.200 2.500 0.177
1 0 1 1 1 0 3 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
210.00 0.00
2 600202 0 1 1
15.80 220.00 0.800 0.8000 210.00 7.00 116.00 -19.00 193.00 1.000
3.00 5.00 0.1000 0.8000 2.500 125.4 3.700 0.0080 0.2480 0.0220
0.200 0.290 2.120 0.250 0.556 2.000 0.100 0.0100 0.375 0.000
0.035 0.882 0.0400 7.000 0.035 0.534 0.200 2.500 0.177
1 0 1 1 1 0 3 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
210.00 0.00
3 600203 0 1 1
15.80 220.00 0.800 0.8000 210.00 7.00 116.00 -19.00 193.00 1.000
3.00 5.00 0.1000 0.8000 2.500 125.4 3.700 0.0080 0.2480 0.0220
0.200 0.290 2.120 0.250 0.556 2.000 0.100 0.0100 0.375 0.000
0.035 0.882 0.0400 7.000 0.035 0.534 0.200 2.500 0.177
1 0 1 1 1 0 3 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
210.00 0.00
10 3006 12 3 1
1 300601 1 1 1
11.00 25.00 0.800 0.8000 19.50 2.00 13.00 -2.00 11.00 1.000
2.00 3.00 0.1500 0.6000 2.500 125.4 2.950 0.0300 0.4600 0.0220
0.200 0.294 1.150 0.190 0.500 0.720 0.140 0.0000 0.375 0.000
0.035 0.882 0.0500 6.690 0.035 0.534 0.100 1.500 0.177
1 0 1 0 1 0 1 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
19.50 0.00
2 300602 1 1 1
11.00 25.00 0.800 0.8000 19.50 2.00 13.00 -2.00 11.00 1.000
2.00 3.00 0.1500 0.6000 2.500 125.4 2.950 0.0300 0.4600 0.0220
0.200 0.294 1.150 0.190 0.500 0.720 0.140 0.0000 0.375 0.000
0.035 0.882 0.0500 6.690 0.035 0.534 0.100 1.500 0.177
1 0 1 0 1 0 1 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
19.50 0.00

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3 300603      1      1      1
11.00 25.00 0.800 0.8000 19.50  2.00 13.00 -2.00 11.00 1.000
 2.00  3.00 0.1500 0.6000 2.500 125.4 2.950 0.0300 0.4600 0.0220
0.200 0.294 1.150 0.190 0.500 0.720 0.140 0.0000 0.375 0.000
0.035 0.882 0.0500 6.690 0.035 0.534 0.100 1.500 0.177
  1      0      1      0      1      0      1      0
 0.00  0.00  0.00  0.00  0.00  0.00
 0.00  0.00  0.00  0.00  0.00  0.00
19.50  0.00
4 300604      1      1      1
11.00 25.00 0.800 0.8000 19.50  2.00 13.00 -2.00 11.00 1.000
 2.00  3.00 0.1500 0.6000 2.500 125.4 2.950 0.0300 0.4600 0.0220
0.200 0.294 1.150 0.190 0.500 0.720 0.140 0.0000 0.375 0.000
0.035 0.882 0.0500 6.690 0.035 0.534 0.100 1.500 0.177
  1      0      1      0      1      0      1      0
 0.00  0.00  0.00  0.00  0.00  0.00
 0.00  0.00  0.00  0.00  0.00  0.00
19.50  0.00
5 300605      1      1      1
11.00 25.00 0.800 0.8000 19.50  2.00 13.00 -2.00 11.00 1.000
 2.00  3.00 0.1500 0.6000 2.500 125.4 2.950 0.0300 0.4600 0.0220
0.200 0.294 1.150 0.190 0.500 0.720 0.140 0.0000 0.375 0.000
0.035 0.882 0.0500 6.690 0.035 0.534 0.100 1.500 0.177
  1      0      1      0      1      0      1      0
 0.00  0.00  0.00  0.00  0.00  0.00
 0.00  0.00  0.00  0.00  0.00  0.00
19.50  0.00
6 300606      1      1      1
11.00 25.00 0.800 0.8000 19.50  2.00 13.00 -2.00 11.00 1.000
 2.00  3.00 0.1500 0.6000 2.500 125.4 2.950 0.0300 0.4600 0.0220
0.200 0.294 1.150 0.190 0.500 0.720 0.140 0.0000 0.375 0.000
0.035 0.882 0.0500 6.690 0.035 0.534 0.100 1.500 0.177
  1      0      1      0      1      0      1      0
 0.00  0.00  0.00  0.00  0.00  0.00
 0.00  0.00  0.00  0.00  0.00  0.00
19.50  0.00
7 300607      1      1      1
11.00 20.00 0.800 0.8000 15.00  2.00 12.00 -2.00  9.00 1.000
 2.00  3.00 0.1500 0.6000 2.500 125.4 2.950 0.0300 0.4900 0.0220
0.200 0.294 1.150 0.190 0.500 0.720 0.140 0.0000 0.375 0.000
0.035 0.882 0.0500 6.690 0.035 0.534 0.100 1.500 0.177
  1      0      1      0      1      0      1      0
 0.00  0.00  0.00  0.00  0.00  0.00
 0.00  0.00  0.00  0.00  0.00  0.00
15.00  0.00
8 300608      1      1      1
11.00 20.00 0.800 0.8000 15.00  2.00 12.00 -2.00  9.00 1.000
 2.00  3.00 0.1500 0.6000 2.500 125.4 2.950 0.0300 0.4900 0.0220

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0.200	0.294	1.150	0.190	0.500	0.720	0.140	0.0000	0.375	0.000
0.035	0.882	0.0500	6.690	0.035	0.534	0.100	1.500	0.177	
1	0	1	0	1	0	1	0		
0.00	0.00	0.00	0.00	0.00	0.00				
0.00	0.00	0.00	0.00	0.00	0.00				
15.00	0.00								
9 300609	1	1	1						
11.00	20.00	0.800	0.8000	15.00	2.00	12.00	-2.00	9.00	1.000
2.00	3.00	0.1500	0.6000	2.500	125.4	2.950	0.0300	0.4900	0.0220
0.200	0.294	1.150	0.190	0.500	0.720	0.140	0.0000	0.375	0.000
0.035	0.882	0.0500	6.690	0.035	0.534	0.100	1.500	0.177	
1	0	1	0	1	0	1	0		
0.00	0.00	0.00	0.00	0.00	0.00				
0.00	0.00	0.00	0.00	0.00	0.00				
15.00	0.00								
10 300610	1	1	1						
11.00	20.00	0.800	0.8000	15.00	2.00	12.00	-2.00	9.00	1.000
2.00	3.00	0.1500	0.6000	2.500	125.4	2.950	0.0300	0.4900	0.0220
0.200	0.294	1.150	0.190	0.500	0.720	0.140	0.0000	0.375	0.000
0.035	0.882	0.0500	6.690	0.035	0.534	0.100	1.500	0.177	
1	0	1	0	1	0	1	0		
0.00	0.00	0.00	0.00	0.00	0.00				
0.00	0.00	0.00	0.00	0.00	0.00				
15.00	0.00								
11 300611	1	1	1						
11.00	20.00	0.800	0.8000	15.00	2.00	12.00	-2.00	9.00	1.000
2.00	3.00	0.1500	0.6000	2.500	125.4	2.950	0.0300	0.4900	0.0220
0.200	0.294	1.150	0.190	0.500	0.720	0.140	0.0000	0.375	0.000
0.035	0.882	0.0500	6.690	0.035	0.534	0.100	1.500	0.177	
1	0	1	0	1	0	1	0		
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0.00	0.00	0.00	0.00	0.00	0.00				
15.00	0.00								
12 300612	1	1	1						
11.00	20.00	0.800	0.8000	15.00	2.00	12.00	-2.00	9.00	1.000
2.00	3.00	0.1500	0.6000	2.500	125.4	2.950	0.0300	0.4900	0.0220
0.200	0.294	1.150	0.190	0.500	0.720	0.140	0.0000	0.375	0.000
0.035	0.882	0.0500	6.690	0.035	0.534	0.100	1.500	0.177	
1	0	1	0	1	0	1	0		
0.00	0.00	0.00	0.00	0.00	0.00				
0.00	0.00	0.00	0.00	0.00	0.00				
15.00	0.00								
11 1006 5	1	1							
1 100601	1	1	1						
11.00	5.00	0.800	0.8000	4.60	1.00	1.60	-0.50	2.60	1.000
1.00	2.00	0.1100	0.5000	2.500	125.4	4.000	0.0080	0.1200	0.0220
0.150	0.300	1.250	0.200	0.250	0.700	0.150	0.0100	0.375	0.000
0.035	0.882	0.0400	4.000	0.035	0.534	0.210	0.060	0.177	

[illegible]


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11.00 15.00 0.800 0.8000 11.50 2.00 4.00 -2.00 6.00 1.000
2.00 3.00 0.1500 0.6000 2.500 125.4 2.950 0.0300 0.4900 0.0220
0.200 0.294 1.150 0.190 0.500 0.720 0.140 0.0100 0.375 0.000
0.035 0.882 0.0500 6.690 0.035 0.534 0.100 1.500 0.177
1 0 1 0 1 0 1 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
11.50 0.00
3 600603 1 1 1
11.00 15.00 0.800 0.8000 11.50 2.00 4.00 -2.00 6.00 1.000
2.00 3.00 0.1500 0.6000 2.500 125.4 2.950 0.0300 0.4900 0.0220
0.200 0.294 1.150 0.190 0.500 0.720 0.140 0.0100 0.375 0.000
0.035 0.882 0.0500 6.690 0.035 0.534 0.100 1.500 0.177
1 0 1 0 1 0 1 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
11.50 0.00
4 600604 1 1 1
11.00 15.00 0.800 0.8000 11.50 2.00 4.00 -2.00 6.00 1.000
2.00 3.00 0.1500 0.6000 2.500 125.4 2.950 0.0300 0.4900 0.0220
0.200 0.294 1.150 0.190 0.500 0.720 0.140 0.0100 0.375 0.000
0.035 0.882 0.0500 6.690 0.035 0.534 0.100 1.500 0.177
1 0 1 0 1 0 1 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
11.50 0.00
5 600605 1 1 1
11.00 15.00 0.800 0.8000 11.50 2.00 4.00 -2.00 6.00 1.000
2.00 3.00 0.1500 0.6000 2.500 125.4 2.950 0.0300 0.4900 0.0220
0.200 0.294 1.150 0.190 0.500 0.720 0.140 0.0100 0.375 0.000
0.035 0.882 0.0500 6.690 0.035 0.534 0.100 1.500 0.177
1 0 1 0 1 0 1 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
11.50 0.00
13 6008 1 6 1
1 600801 0 1 1
11.00 120.00 0.800 0.8000 100.00 10.00 60.00 -20.00 100.00 1.000
2.00 3.00 0.1500 0.6000 2.500 125.4 4.880 0.0080 0.2110 0.0220
0.205 0.271 0.928 0.220 0.500 0.609 0.116 0.0100 0.380 0.000
0.035 0.882 0.0500 8.430 0.035 0.534 0.070 1.500 0.177
1 0 1 1 1 0 5 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
100.00 0.00

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14 6005 4      6      1
    1 600501      1      1      1
      11.00 50.00 0.800 0.8000 45.00 4.00 14.00 -3.00 25.00 1.000
      2.00 3.00 0.1500 0.6000 2.500 125.4 4.000 0.0080 0.3400 0.0220
      0.217 0.335 0.950 0.190 0.500 0.504 0.130 0.0100 0.375 0.000
      0.035 0.882 0.0500 5.600 0.035 0.534 0.100 1.500 0.177
      1      0      1      0      1      0      1      0
      0.00 0.00 0.00 0.00 0.00 0.00
      0.00 0.00 0.00 0.00 0.00 0.00
      45.00 0.00
    2 600502      1      1      1
      11.00 50.00 0.800 0.8000 45.00 4.00 14.00 -3.00 25.00 1.000
      2.00 3.00 0.1500 0.6000 2.500 125.4 4.000 0.0080 0.3400 0.0220
      0.217 0.335 0.950 0.190 0.500 0.504 0.130 0.0100 0.375 0.000
      0.035 0.882 0.0500 5.600 0.035 0.534 0.100 1.500 0.177
      1      0      1      0      1      0      1      0
      0.00 0.00 0.00 0.00 0.00 0.00
      0.00 0.00 0.00 0.00 0.00 0.00
      45.00 0.00
    3 600503      1      1      1
      11.00 30.00 0.800 0.8000 25.00 4.00 10.00 -2.00 15.00 1.000
      2.00 3.00 0.1500 0.6000 2.500 125.4 2.950 0.0400 0.2700 0.0220
      0.200 0.294 1.150 0.190 0.500 0.720 0.140 0.0100 0.375 0.000
      0.035 0.882 0.0500 6.690 0.035 0.534 0.100 1.500 0.177
      1      0      1      0      1      0      1      0
      0.00 0.00 0.00 0.00 0.00 0.00
      0.00 0.00 0.00 0.00 0.00 0.00
      25.00 0.00
    4 600504      1      1      1
      11.00 30.00 0.800 0.8000 25.00 4.00 10.00 -2.00 15.00 1.000
      2.00 3.00 0.1500 0.6000 2.500 125.4 2.950 0.0400 0.2700 0.0220
      0.200 0.294 1.150 0.190 0.500 0.720 0.140 0.0100 0.375 0.000
      0.035 0.882 0.0500 6.690 0.035 0.534 0.100 1.500 0.177
      1      0      1      0      1      0      1      0
      0.00 0.00 0.00 0.00 0.00 0.00
      0.00 0.00 0.00 0.00 0.00 0.00
      25.00 0.00
15 3004 6      3      1
    1 300401      1      1      1
      11.00 20.00 0.800 0.8000 15.00 2.00 6.00 -1.00 10.00 1.000
      2.00 3.00 0.1500 0.6000 2.500 125.4 2.950 0.0300 0.4900 0.0220
      0.200 0.294 1.150 0.190 0.500 0.720 0.140 0.0000 0.375 0.000
      0.035 0.882 0.0500 6.690 0.035 0.534 0.100 1.500 0.177
      1      0      1      0      1      0      1      0
      0.00 0.00 0.00 0.00 0.00 0.00
      0.00 0.00 0.00 0.00 0.00 0.00
      15.00 0.00
    2 300402      1      1      1

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11.00 20.00 0.800 0.8000 15.00 2.00 6.00 -1.00 10.00 1.000
2.00 3.00 0.1500 0.6000 2.500 125.4 2.950 0.0300 0.4900 0.0220
0.200 0.294 1.150 0.190 0.500 0.720 0.140 0.0000 0.375 0.000
0.035 0.882 0.0500 6.690 0.035 0.534 0.100 1.500 0.177
1 0 1 0 1 0 1 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
15.00 0.00
3 300403 1 1 1
11.00 20.00 0.800 0.8000 15.00 2.00 6.00 -1.00 10.00 1.000
2.00 3.00 0.1500 0.6000 2.500 125.4 2.950 0.0300 0.4900 0.0220
0.200 0.294 1.150 0.190 0.500 0.720 0.140 0.0000 0.375 0.000
0.035 0.882 0.0500 6.690 0.035 0.534 0.100 1.500 0.177
1 0 1 0 1 0 1 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
15.00 0.00
4 300404 1 1 1
11.00 20.00 0.800 0.8000 15.00 2.00 6.00 -1.00 10.00 1.000
2.00 3.00 0.1500 0.6000 2.500 125.4 2.950 0.0300 0.4900 0.0220
0.200 0.294 1.150 0.190 0.500 0.720 0.140 0.0000 0.375 0.000
0.035 0.882 0.0500 6.690 0.035 0.534 0.100 1.500 0.177
1 0 1 0 1 0 1 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
15.00 0.00
5 300405 1 1 1
11.00 20.00 0.800 0.8000 15.00 2.00 6.00 -1.00 10.00 1.000
2.00 3.00 0.1500 0.6000 2.500 125.4 2.950 0.0300 0.4900 0.0220
0.200 0.294 1.150 0.190 0.500 0.720 0.140 0.0000 0.375 0.000
0.035 0.882 0.0500 6.690 0.035 0.534 0.100 1.500 0.177
1 0 1 0 1 0 1 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
15.00 0.00
6 300406 1 1 1
11.00 20.00 0.800 0.8000 15.00 2.00 6.00 -1.00 10.00 1.000
2.00 3.00 0.1500 0.6000 2.500 125.4 2.950 0.0300 0.4900 0.0220
0.200 0.294 1.150 0.190 0.500 0.720 0.140 0.0000 0.375 0.000
0.035 0.882 0.0500 6.690 0.035 0.534 0.100 1.500 0.177
1 0 1 0 1 0 1 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
15.00 0.00
16 8022 2 8 1
1 802201 3 1 1
21.00 250.00 0.800 0.8000 220.00 10.00 90.00 -15.00 150.00 0.900
3.00 6.00 0.1000 0.8000 2.500 125.4 3.700 0.0080 0.2480 0.0220

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0.229 0.338 2.225 0.250 0.556 2.110 0.100 0.0100 0.380 0.000
0.035 0.882 0.0400 7.000 0.035 0.534 0.200 2.500 0.177
1 0 1 0 1 0 2 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
220.00 0.00
2 802202 3 1 1
21.00 250.00 0.800 0.8000 220.00 10.00 90.00 -15.00 150.00 0.900
3.00 6.00 0.1000 0.8000 2.500 125.4 3.700 0.0080 0.2480 0.0220
0.229 0.338 2.225 0.250 0.556 2.110 0.100 0.0100 0.380 0.000
0.035 0.882 0.0400 7.000 0.035 0.534 0.200 2.500 0.177
1 0 1 0 1 0 2 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
220.00 0.00
17 8009 1 8 1
1 800901 2 1 1
15.80 160.00 0.800 0.8000 150.00 10.00 90.00 -15.00 150.00 1.000
2.00 5.00 0.1500 0.6000 2.500 125.4 2.700 0.0450 0.2550 0.0220
0.125 0.179 1.020 0.210 0.500 1.000 0.100 0.0100 0.380 0.000
0.035 0.882 0.0500 6.000 0.035 0.534 0.100 1.500 0.177
1 0 1 0 1 0 4 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
150.00 0.00
18 8008 3 8 1
1 800801 2 1 1
10.50 100.00 0.800 0.8000 88.00 4.00 40.00 -7.00 66.60 0.900
2.00 3.00 0.1500 0.6000 2.500 125.4 2.760 0.0200 0.0950 0.0220
0.236 0.314 2.400 0.210 0.500 2.340 0.190 0.0100 0.380 0.000
0.035 0.882 0.0400 8.300 0.035 0.534 0.070 0.720 0.177
1 0 1 0 1 0 4 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
88.00 0.00
2 800802 2 1 1
10.50 100.00 0.800 0.8000 88.00 4.00 40.00 -7.00 66.60 0.900
2.00 3.00 0.1500 0.6000 2.500 125.4 2.760 0.0200 0.0950 0.0220
0.236 0.314 2.400 0.210 0.500 2.340 0.190 0.0100 0.380 0.000
0.035 0.882 0.0400 8.300 0.035 0.534 0.070 0.720 0.177
1 0 1 0 1 0 4 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
88.00 0.00
3 800803 2 1 1
10.50 100.00 0.800 0.8000 88.00 4.00 40.00 -7.00 66.60 0.900
2.00 3.00 0.1500 0.6000 2.500 125.4 2.760 0.0200 0.0950 0.0220
0.236 0.314 2.400 0.210 0.500 2.340 0.190 0.0100 0.380 0.000

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	0.035	0.882	0.0400	8.300	0.035	0.534	0.070	0.720	0.177	
	1	0	1	0	1	0	4	0		
	0.00	0.00	0.00	0.00	0.00	0.00				
	0.00	0.00	0.00	0.00	0.00	0.00				
	88.00	0.00								
19	2001	6	2	1						
1	200101	1	1	1						
	11.00	63.00	0.800	0.8000	60.00	3.50	15.00	-2.50	25.00	1.000
	2.00	5.00	0.1700	0.4400	1.460	364.0	4.800	0.0140	0.2600	0.0740
	0.150	0.220	0.862	0.135	0.135	0.531	0.101	0.0040	0.375	0.000
	0.035	1.850	0.0500	4.950	0.035	0.534	0.100	1.500	0.177	
	1	0	1	0	1	0	1	0		
	0.00	0.00	0.00	0.00	0.00	0.00				
	0.00	0.00	0.00	0.00	0.00	0.00				
	60.00	0.00								
2	200102	1	1	1						
	11.00	75.00	0.800	0.8000	60.00	3.50	15.00	-2.50	25.00	1.000
	2.00	5.00	0.1500	0.6000	2.500	125.4	2.200	0.0080	0.1300	0.0220
	0.180	0.250	0.900	0.220	0.600	0.600	0.134	0.0100	0.375	1.000
	0.035	0.882	0.0590	4.750	0.035	0.534	0.210	1.500	0.177	
	1	0	1	0	1	0	1	0		
	0.00	0.00	0.00	0.00	0.00	0.00				
	0.00	0.00	0.00	0.00	0.00	0.00				
	60.00	0.00								
3	200103	1	1	1						
	11.00	75.00	0.800	0.8000	60.00	3.50	15.00	-2.50	25.00	1.000
	2.00	5.00	0.2790	0.8860	2.500	125.4	2.200	0.0080	0.1200	0.0220
	0.180	0.250	0.900	0.220	0.600	0.600	0.134	0.0100	0.375	1.000
	0.035	0.882	0.0590	4.750	0.035	0.534	0.210	1.500	0.177	
	1	0	1	0	1	0	1	0		
	0.00	0.00	0.00	0.00	0.00	0.00				
	0.00	0.00	0.00	0.00	0.00	0.00				
	60.00	0.00								
4	200104	1	1	1						
	11.00	75.00	0.800	0.8000	60.00	3.50	15.00	-2.50	25.00	1.000
	2.00	5.00	0.2790	0.8860	2.500	125.4	2.200	0.0080	0.1200	0.0220
	0.180	0.250	0.900	0.220	0.600	0.600	0.134	0.0100	0.375	1.000
	0.035	0.882	0.0590	4.750	0.035	0.534	0.210	1.500	0.177	
	1	0	1	0	1	0	1	0		
	0.00	0.00	0.00	0.00	0.00	0.00				
	0.00	0.00	0.00	0.00	0.00	0.00				
	60.00	0.00								
5	200105	1	1	1						
	11.00	75.00	0.800	0.8000	60.00	3.50	15.00	-2.50	25.00	1.000
	2.00	5.00	0.2790	0.8860	2.500	125.4	2.200	0.0080	0.1200	0.0220
	0.180	0.250	0.900	0.220	0.600	0.600	0.134	0.0100	0.375	1.000
	0.035	0.882	0.0590	4.750	0.035	0.534	0.210	1.500	0.177	
	1	0	1	0	1	0	1	0		

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0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
60.00 0.00
6 200106 1 1 1
11.00 75.00 0.800 0.8000 60.00 3.50 15.00 -2.50 25.00 1.000
2.00 5.00 0.2790 0.8860 2.500 125.4 2.200 0.0080 0.1200 0.0220
0.180 0.250 0.900 0.220 0.600 0.600 0.134 0.0100 0.375 1.000
0.035 0.882 0.0590 4.750 0.035 0.534 0.210 1.500 0.177
1 0 1 0 1 0 1 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
60.00 0.00
20 1005 2 1 1
1 100501 1 1 1
11.00 12.00 0.800 0.8000 11.00 3.00 8.00 -4.00 5.00 0.900
2.00 5.00 0.1500 0.6000 2.500 125.4 3.940 0.0080 0.1200 0.0220
0.200 0.286 1.000 0.220 0.500 0.636 0.148 0.0100 0.375 0.000
0.035 0.882 0.0500 5.550 0.035 0.534 0.100 0.100 0.177
1 0 1 0 1 0 1 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
11.00 0.00
2 100502 1 1 1
11.00 12.00 0.800 0.8000 11.00 3.00 8.00 -4.00 5.00 0.900
2.00 5.00 0.1500 0.6000 2.500 125.4 3.940 0.0080 0.1200 0.0220
0.200 0.286 1.000 0.220 0.500 0.636 0.148 0.0100 0.375 0.000
0.035 0.882 0.0500 5.550 0.035 0.534 0.100 0.100 0.177
1 0 1 0 1 0 1 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
11.00 0.00
21 8017 3 8 1
1 801701 1 1 1
11.00 75.00 0.800 0.8000 60.00 4.00 20.00 -4.00 34.00 1.000
2.00 3.00 0.1000 0.8300 2.500 125.4 2.400 0.0160 0.0850 0.0220
0.178 0.309 1.635 0.190 0.410 1.560 0.135 0.0100 0.380 0.000
0.035 0.882 0.0320 5.364 0.035 0.534 0.095 0.344 0.177
1 0 1 0 1 0 1 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
60.00 0.00
2 801702 1 1 1
11.00 75.00 0.800 0.8000 60.00 4.00 20.00 -4.00 34.00 1.000
2.00 3.00 0.1000 0.8300 2.500 125.4 2.400 0.0160 0.0850 0.0220
0.178 0.309 1.635 0.190 0.410 1.560 0.135 0.0100 0.380 0.000
0.035 0.882 0.0320 5.364 0.035 0.534 0.095 0.344 0.177
1 0 1 0 1 0 1 0
0.00 0.00 0.00 0.00 0.00 0.00

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    0.00  0.00  0.00  0.00  0.00  0.00
60.00  0.00
3 801703    1    1    1
    11.00 75.00 0.800 0.8000 60.00  4.00 20.00 -4.00 34.00 1.000
    2.00  3.00 0.1000 0.8300 2.500 125.4 2.400 0.0160 0.0850 0.0220
    0.178 0.309 1.635 0.190 0.410 1.560 0.135 0.0100 0.380 0.000
    0.035 0.882 0.0320 5.364 0.035 0.534 0.095 0.344 0.177
    1      0      1      0      1      0      1      0
    0.00  0.00  0.00  0.00  0.00  0.00
    0.00  0.00  0.00  0.00  0.00  0.00
60.00  0.00
22 3005 4    3    1
1 300501    1    1    1
    11.00 40.00 0.800 0.8000 33.50  3.00 11.25 -2.00 18.75 1.000
    2.00  3.00 0.1500 0.6000 2.500 125.4 5.025 0.0080 0.2970 0.0220
    0.091 0.191 0.752 0.190 0.500 0.481 0.081 0.0000 0.375 0.000
    0.035 0.882 0.0500 5.520 0.035 0.534 0.100 1.500 0.177
    1      0      1      0      1      0      1      0
    0.00  0.00  0.00  0.00  0.00  0.00
    0.00  0.00  0.00  0.00  0.00  0.00
33.50  0.00
2 300502    1    1    1
    11.00 40.00 0.800 0.8000 33.50  3.00 11.25 -2.00 18.75 1.000
    2.00  3.00 0.1500 0.6000 2.500 125.4 5.025 0.0080 0.2970 0.0220
    0.091 0.191 0.752 0.190 0.500 0.481 0.081 0.0000 0.375 0.000
    0.035 0.882 0.0500 5.520 0.035 0.534 0.100 1.500 0.177
    1      0      1      0      1      0      1      0
    0.00  0.00  0.00  0.00  0.00  0.00
    0.00  0.00  0.00  0.00  0.00  0.00
33.50  0.00
3 300503    1    1    1
    11.00 40.00 0.800 0.8000 33.50  3.00 11.25 -2.00 18.75 1.000
    2.00  3.00 0.1500 0.6000 2.500 125.4 5.025 0.0080 0.2970 0.0220
    0.091 0.191 0.752 0.190 0.500 0.481 0.081 0.0000 0.375 0.000
    0.035 0.882 0.0500 5.520 0.035 0.534 0.100 1.500 0.177
    1      0      1      0      1      0      1      0
    0.00  0.00  0.00  0.00  0.00  0.00
    0.00  0.00  0.00  0.00  0.00  0.00
33.50  0.00
4 300504    1    1    1
    11.00 40.00 0.800 0.8000 33.50  3.00 11.25 -2.00 18.75 1.000
    2.00  3.00 0.1500 0.6000 2.500 125.4 5.025 0.0080 0.2970 0.0220
    0.091 0.191 0.752 0.190 0.500 0.481 0.081 0.0000 0.375 0.000
    0.035 0.882 0.0500 5.520 0.035 0.534 0.100 1.500 0.177
    1      0      1      0      1      0      1      0
    0.00  0.00  0.00  0.00  0.00  0.00
    0.00  0.00  0.00  0.00  0.00  0.00
33.50  0.00

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23  8018  3      8      1
    1 801801      1      1      0
      15.80 200.00  0.800 0.8000 180.00   7.00  56.00  -9.50  93.30  0.900
      3.00   5.00 0.1500 0.6000  2.500 125.4  4.720  0.0080 0.2580 0.0220
      0.141 0.253 1.053 0.230  0.500 0.584 0.092 0.0100 0.380 0.000
      0.035 0.882 0.0500 8.840 0.035 0.534 0.100 1.500 0.177
      1      0      1      0      1      0      1      0
      0.00  0.00  0.00  0.00  0.00  0.00
      0.00  0.00  0.00  0.00  0.00  0.00
      180.00  0.00
    2 801802      1      1      1
      15.80 200.00  0.800 0.8000 180.00   7.00  56.00  -9.50  93.30  0.900
      3.00   5.00 0.1500 0.6000  2.500 125.4  4.720  0.0080 0.2580 0.0220
      0.141 0.253 1.053 0.230  0.500 0.584 0.092 0.0100 0.380 0.000
      0.035 0.882 0.0500 8.840 0.035 0.534 0.100 1.500 0.177
      1      0      1      0      1      0      1      0
      0.00  0.00  0.00  0.00  0.00  0.00
      0.00  0.00  0.00  0.00  0.00  0.00
      180.00  0.00
    3 801803      1      1      1
      15.80 200.00  0.800 0.8000 180.00   7.00  56.00  -9.50  93.30  0.900
      3.00   5.00 0.1500 0.6000  2.500 125.4  4.720  0.0080 0.2580 0.0220
      0.141 0.253 1.053 0.230  0.500 0.584 0.092 0.0100 0.380 0.000
      0.035 0.882 0.0500 8.840 0.035 0.534 0.100 1.500 0.177
      1      0      1      0      1      0      1      0
      0.00  0.00  0.00  0.00  0.00  0.00
      0.00  0.00  0.00  0.00  0.00  0.00
      180.00  0.00
24  2002  5      2      1
    1 200201      1      1      1
      11.00 150.00  0.800 0.8000 132.00   6.00  48.00  -8.00  80.00  1.000
      2.00   5.00 0.2790 0.8860  2.500 125.4  1.000  0.0080 0.1200 0.0220
      0.180 0.250 0.900 0.220  0.600 0.600 0.134 0.0100 0.375 2.500
      0.035 0.882 0.0590 4.750 0.035 0.534 0.210 1.500 0.177
      1      0      1      0      1      0      1      0
      0.00  0.00  0.00  0.00  0.00  0.00
      0.00  0.00  0.00  0.00  0.00  0.00
      132.00  0.00
    2 200202      1      1      1
      11.00 150.00  0.800 0.8000 132.00   6.00  48.00  -8.00  80.00  1.000
      2.00   5.00 0.2790 0.8860  2.500 125.4  1.000  0.0080 0.1200 0.0220
      0.180 0.250 0.900 0.220  0.600 0.600 0.134 0.0100 0.375 2.500
      0.035 0.882 0.0590 4.750 0.035 0.534 0.210 1.500 0.177
      1      0      1      0      1      0      1      0
      0.00  0.00  0.00  0.00  0.00  0.00
      0.00  0.00  0.00  0.00  0.00  0.00
      132.00  0.00
    3 200203      1      1      1

```



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11.00 150.00 0.800 0.8000 132.00 6.00 48.00 -8.00 80.00 1.000
2.00 5.00 0.2790 0.8860 2.500 125.4 1.000 0.0080 0.1200 0.0220
0.180 0.250 0.900 0.220 0.600 0.600 0.134 0.0100 0.375 2.500
0.035 0.882 0.0590 4.750 0.035 0.534 0.210 1.500 0.177
1 0 1 0 1 0 1 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
132.00 0.00
4 200204 1 1 1
11.00 150.00 0.800 0.8000 132.00 6.00 48.00 -8.00 80.00 1.000
2.00 5.00 0.2790 0.8860 2.500 125.4 1.000 0.0080 0.1200 0.0220
0.180 0.250 0.900 0.220 0.600 0.600 0.134 0.0100 0.375 2.500
0.035 0.882 0.0590 4.750 0.035 0.534 0.210 1.500 0.177
1 0 1 0 1 0 1 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
132.00 0.00
5 200205 1 1 1
11.00 150.00 0.800 0.8000 132.00 6.00 48.00 -8.00 80.00 1.000
2.00 5.00 0.2790 0.8860 2.500 125.4 1.000 0.0080 0.1200 0.0220
0.180 0.250 0.900 0.220 0.600 0.600 0.134 0.0100 0.375 2.500
0.035 0.882 0.0590 4.750 0.035 0.534 0.210 1.500 0.177
1 0 1 0 1 0 1 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
132.00 0.00
25 3007 2 3 1
1 300701 0 1 0
15.80 247.00 0.800 0.8000 210.00 8.00 37.00 -25.00 61.00 1.000
3.00 5.00 0.1000 0.8000 2.500 125.4 3.700 0.0080 0.2480 0.0220
0.230 0.338 2.225 0.250 0.556 2.110 0.100 0.0100 0.380 0.000
0.035 0.882 0.0400 7.000 0.035 0.534 0.200 2.500 0.177
1 0 1 1 1 0 3 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
210.00 0.00
2 300702 0 1 1
15.80 225.00 0.800 0.8000 210.00 8.00 37.00 -25.00 61.00 1.000
3.00 5.00 0.2800 0.8900 2.500 125.4 2.730 0.0080 0.2480 0.0220
0.210 0.270 2.230 0.250 0.000 2.000 0.000 0.0100 0.380 1.000
0.035 0.882 0.0590 4.750 0.035 0.000 0.000 1.000 0.177
1 0 1 0 1 0 3 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
210.00 0.00
26 2004 2 2 1
1 200401 1 1 1
11.00 120.00 0.800 0.8000 108.00 10.00 45.00 -7.50 75.00 1.000

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    2.00  5.00 0.1500 0.6000  2.500 125.4  4.040  0.0080 0.2110 0.0220
    0.190 0.300  0.950  0.220  0.300  0.590  0.150  0.0100  0.375  0.000
    0.035 0.882 0.0500  2.300  0.035  0.534  0.100  1.500  0.177
    1      0      1      0      1      0      1      0
    0.00  0.00  0.00  0.00  0.00  0.00
    0.00  0.00  0.00  0.00  0.00  0.00
108.00  0.00
2 200402      1      1      1
    11.00 120.00  0.800 0.8000 108.00 10.00 45.00  -7.50 75.00  1.000
    2.00  5.00 0.1500 0.6000  2.500 125.4  4.040  0.0080 0.2110 0.0220
    0.190 0.300  0.950  0.220  0.300  0.590  0.150  0.0100  0.375  0.000
    0.035 0.882 0.0500  2.300  0.035  0.534  0.100  1.500  0.177
    1      0      1      0      1      0      1      0
    0.00  0.00  0.00  0.00  0.00  0.00
    0.00  0.00  0.00  0.00  0.00  0.00
108.00  0.00
27 2007 2      2      1
1 200701      1      1      1
    11.00 25.00  0.800 0.8000 19.50  3.00  6.00  -1.00 10.00  1.000
    2.00  3.00 0.1500 0.6000  2.500 125.4  2.950  0.0300 0.4600 0.0220
    0.200 0.294  1.150  0.180  0.550  0.720  0.140  0.0000  0.375  0.000
    0.035 0.882 0.0500  6.690  0.035  0.534  0.100  1.500  0.177
    1      0      1      0      1      0      1      0
    0.00  0.00  0.00  0.00  0.00  0.00
    0.00  0.00  0.00  0.00  0.00  0.00
19.50  0.00
2 200702      1      1      1
    11.00 25.00  0.800 0.8000 19.50  3.00  6.00  -1.00 10.00  1.000
    2.00  3.00 0.1500 0.6000  2.500 125.4  2.950  0.0080 0.1200 0.0220
    0.200 0.294  1.150  0.180  0.550  0.720  0.140  0.0000  0.375  0.000
    0.035 0.882 0.0500  6.690  0.035  0.534  0.100  1.500  0.177
    1      0      1      0      1      0      1      0
    0.00  0.00  0.00  0.00  0.00  0.00
    0.00  0.00  0.00  0.00  0.00  0.00
19.50  0.00
28 3009 5      3      1
1 300901      1      1      1
    11.00 20.00  0.800 0.8000 15.00  2.00  5.00  -2.00  8.00  1.000
    2.00  3.00 0.1500 0.6000  2.500 125.4  2.950  0.0300 0.4900 0.0220
    0.207 0.294  1.150  0.190  0.500  0.720  0.140  0.0000  0.375  0.000
    0.035 0.882 0.0500  6.690  0.035  0.534  0.100  1.500  0.177
    1      0      1      0      1      0      1      0
    0.00  0.00  0.00  0.00  0.00  0.00
    0.00  0.00  0.00  0.00  0.00  0.00
15.00  0.00
2 300902      1      1      1
    11.00 20.00  0.800 0.8000 15.00  2.00  5.00  -2.00  8.00  1.000
    2.00  3.00 0.1500 0.6000  2.500 125.4  2.950  0.0300 0.4900 0.0220

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0.207	0.294	1.150	0.190	0.500	0.720	0.140	0.0000	0.375	0.000
0.035	0.882	0.0500	6.690	0.035	0.534	0.100	1.500	0.177	
1	0	1	0	1	0	1	0		
0.00	0.00	0.00	0.00	0.00	0.00				
0.00	0.00	0.00	0.00	0.00	0.00				
15.00	0.00								
3 300903	1	1	1						
11.00	20.00	0.800	0.8000	15.00	2.00	5.00	-2.00	8.00	1.000
2.00	3.00	0.1500	0.6000	2.500	125.4	2.950	0.0300	0.4900	0.0220
0.207	0.294	1.150	0.190	0.500	0.720	0.140	0.0000	0.375	0.000
0.035	0.882	0.0500	6.690	0.035	0.534	0.100	1.500	0.177	
1	0	1	0	1	0	1	0		
0.00	0.00	0.00	0.00	0.00	0.00				
0.00	0.00	0.00	0.00	0.00	0.00				
15.00	0.00								
4 300904	1	1	1						
11.00	20.00	0.800	0.8000	15.00	2.00	5.00	-2.00	8.00	1.000
2.00	3.00	0.1500	0.6000	2.500	125.4	2.950	0.0300	0.4900	0.0220
0.207	0.294	1.150	0.190	0.500	0.720	0.140	0.0000	0.375	0.000
0.035	0.882	0.0500	6.690	0.035	0.534	0.100	1.500	0.177	
1	0	1	0	1	0	1	0		
0.00	0.00	0.00	0.00	0.00	0.00				
0.00	0.00	0.00	0.00	0.00	0.00				
15.00	0.00								
5 300905	1	1	1						
11.00	60.00	0.800	0.8000	50.00	2.00	5.00	-2.00	33.00	1.000
2.00	3.00	0.2790	0.8860	2.500	125.4	1.900	0.0140	0.2600	0.0220
0.180	0.200	1.900	0.190	0.500	1.800	0.134	0.0000	0.375	1.000
0.035	0.882	0.0590	4.750	0.035	0.534	0.210	1.500	0.177	
1	0	1	0	1	0	1	0		
0.00	0.00	0.00	0.00	0.00	0.00				
0.00	0.00	0.00	0.00	0.00	0.00				
50.00	0.00								
29 2003 3	2	1							
1 200301	1	1	1						
11.00	120.00	0.800	0.8000	108.00	10.00	40.00	-7.00	66.60	1.000
2.00	5.00	0.1500	0.6000	2.220	272.3	4.040	0.0080	0.2110	0.1500
0.190	0.300	0.950	0.221	0.686	0.590	0.150	0.0020	0.379	0.000
0.035	1.940	0.0500	2.300	0.035	0.534	0.100	1.500	0.177	
1	0	1	0	1	0	1	0		
0.00	0.00	0.00	0.00	0.00	0.00				
0.00	0.00	0.00	0.00	0.00	0.00				
108.00	0.00								
2 200302	1	1	1						
11.00	120.00	0.800	0.8000	108.00	10.00	40.00	-7.00	66.60	1.000
2.00	5.00	0.1500	0.6000	2.220	272.3	4.040	0.0080	0.2110	0.1500
0.190	0.300	0.950	0.221	0.686	0.590	0.150	0.0020	0.379	0.000
0.035	1.940	0.0500	2.300	0.035	0.534	0.100	1.500	0.177	

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      1      0      1      0      1      0      1      0
      0.00   0.00   0.00   0.00   0.00   0.00
      0.00   0.00   0.00   0.00   0.00   0.00
108.00   0.00
3 200303      1      1      1
11.00 120.00 0.800 0.8000 108.00 10.00 40.00 -7.00 66.60 1.000
 2.00   5.00 0.1500 0.6000 2.220 272.3 4.040 0.0080 0.2110 0.1500
0.190 0.300 0.950 0.221 0.686 0.590 0.150 0.0020 0.379 0.000
0.035 1.940 0.0500 2.300 0.035 0.534 0.100 1.500 0.177
      1      0      1      0      1      0      1      0
      0.00   0.00   0.00   0.00   0.00   0.00
      0.00   0.00   0.00   0.00   0.00   0.00
108.00   0.00
30 9005 4      9      1
1 900501      1      1      1
11.00 20.00 0.800 0.8000 15.00 3.00 7.00 -2.00 10.00 0.900
 2.00   3.00 0.1500 0.6000 2.500 125.4 2.950 0.0300 0.4900 0.0220
0.200 0.294 1.150 0.210 0.500 0.720 0.140 0.0100 0.380 0.000
0.035 0.882 0.0500 6.690 0.035 0.534 0.100 1.500 0.177
      1      0      1      0      1      0      1      0
      0.00   0.00   0.00   0.00   0.00   0.00
      0.00   0.00   0.00   0.00   0.00   0.00
15.00   0.00
2 900502      1      1      1
11.00 20.00 0.800 0.8000 15.00 3.00 7.00 -2.00 10.00 0.900
 2.00   3.00 0.1500 0.6000 2.500 125.4 2.950 0.0300 0.4900 0.0220
0.200 0.294 1.150 0.210 0.500 0.720 0.140 0.0100 0.380 0.000
0.035 0.882 0.0500 6.690 0.035 0.534 0.100 1.500 0.177
      1      0      1      0      1      0      1      0
      0.00   0.00   0.00   0.00   0.00   0.00
      0.00   0.00   0.00   0.00   0.00   0.00
15.00   0.00
3 900503      0      1      1
11.00 20.00 0.800 0.8000 15.00 3.00 7.00 -2.00 10.00 0.900
 2.00   3.00 0.1500 0.6000 2.500 125.4 2.950 0.0300 0.4900 0.0220
0.200 0.294 1.150 0.210 0.500 0.720 0.140 0.0100 0.380 0.000
0.035 0.882 0.0500 6.690 0.035 0.534 0.100 1.500 0.177
      1      0      1      0      1      0      1      0
      0.00   0.00   0.00   0.00   0.00   0.00
      0.00   0.00   0.00   0.00   0.00   0.00
15.00   0.00
4 900504      0      1      1
11.00 20.00 0.800 0.8000 15.00 3.00 7.00 -2.00 10.00 0.900
 2.00   3.00 0.1500 0.6000 2.500 125.4 2.950 0.0300 0.4900 0.0220
0.200 0.294 1.150 0.210 0.500 0.720 0.140 0.0100 0.380 0.000
0.035 0.882 0.0500 6.690 0.035 0.534 0.100 1.500 0.177
      1      0      1      0      1      0      1      0
      0.00   0.00   0.00   0.00   0.00   0.00

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    0.00  0.00  0.00  0.00  0.00  0.00
    15.00  0.00
31  3011  4    3    1
    1  301101    0    1    1
    15.80 225.00  0.800 0.8000 210.00   7.50 106.50 -25.00 177.50  1.000
       3.00   5.00 0.2800 0.8900  2.500 125.4  2.730  0.0080 0.2480 0.0220
    0.210 0.270  2.230  0.250  0.000  2.000  0.000  0.0100  0.380  1.000
    0.035 0.882 0.0590  4.750  0.035  0.000  0.000   1.500  0.177
       1    0    1    1    1    0    3    0
       0.00  0.00  0.00  0.00  0.00  0.00
       0.00  0.00  0.00  0.00  0.00  0.00
    210.00  0.00
    2  301102    0    1    1
    15.80 225.00  0.800 0.8000 210.00   7.50 106.50 -25.00 177.50  1.000
       3.00   5.00 0.2800 0.8900  2.500 125.4  2.730  0.0080 0.2480 0.0220
    0.210 0.270  2.230  0.250  0.000  2.000  0.000  0.0100  0.380  1.000
    0.035 0.882 0.0590  4.750  0.035  0.000  0.000   1.500  0.177
       1    0    1    1    1    0    3    0
       0.00  0.00  0.00  0.00  0.00  0.00
       0.00  0.00  0.00  0.00  0.00  0.00
    210.00  0.00
    3  301103    0    1    1
    15.80 225.00  0.800 0.8000 210.00   7.50 106.50 -25.00 177.50  1.000
       3.00   5.00 0.2800 0.8900  2.500 125.4  2.730  0.0080 0.2480 0.0220
    0.210 0.270  2.230  0.250  0.000  2.000  0.000  0.0100  0.380  1.000
    0.035 0.882 0.0590  4.750  0.035  0.000  0.000   1.500  0.177
       1    0    1    1    1    0    3    0
       0.00  0.00  0.00  0.00  0.00  0.00
       0.00  0.00  0.00  0.00  0.00  0.00
    210.00  0.00
    4  301104    0    1    0
    15.80 225.00  0.800 0.8000 210.00   7.50 106.50 -25.00 177.50  1.000
       3.00   5.00 0.2800 0.8900  2.500 125.4  2.730  0.0080 0.2480 0.0220
    0.210 0.270  2.230  0.250  0.000  2.000  0.000  0.0100  0.380  1.000
    0.035 0.882 0.0590  4.750  0.035  0.000  0.000   1.500  0.177
       1    0    1    1    1    0    3    0
       0.00  0.00  0.00  0.00  0.00  0.00
       0.00  0.00  0.00  0.00  0.00  0.00
    210.00  0.00
32  2008  2    2    1
    1  200801    1    1    1
    11.00 25.00  0.800 0.8000  19.50   3.00   6.00  -1.00  10.00  1.000
       2.00   3.00 0.1500 0.6000  2.500 125.4  2.950  0.0300  0.4600 0.0220
    0.200 0.294  1.150  0.180  0.550  0.720  0.140  0.0000  0.375  0.000
    0.035 0.882 0.0500  6.690  0.035  0.534  0.100   1.500  0.177
       1    0    1    0    1    0    1    0
       0.00  0.00  0.00  0.00  0.00  0.00
       0.00  0.00  0.00  0.00  0.00  0.00

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```

19.50 0.00
2 200802 1 1 1
11.00 25.00 0.800 0.8000 19.50 3.00 6.00 -1.00 10.00 1.000
2.00 3.00 0.1500 0.6000 2.500 125.4 2.950 0.0300 0.4600 0.0220
0.200 0.294 1.150 0.180 0.550 0.720 0.140 0.0000 0.375 0.000
0.035 0.882 0.0500 6.690 0.035 0.534 0.100 1.500 0.177
1 0 1 0 1 0 1 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
19.50 0.00
33 2005 3 2 1
1 200501 1 1 1
11.00 180.00 0.800 0.8000 165.00 10.00 60.00 -10.00 100.00 1.000
2.00 5.00 0.1500 0.6000 2.500 125.4 4.720 0.0450 0.2550 0.0220
0.141 0.235 1.053 0.230 0.650 0.584 0.092 0.0100 0.375 0.000
0.035 0.882 0.0500 8.840 0.035 0.534 0.100 1.500 0.177
1 0 1 0 1 0 1 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
165.00 0.00
2 200502 1 1 1
11.00 180.00 0.800 0.8000 165.00 10.00 60.00 -10.00 100.00 1.000
2.00 5.00 0.1500 0.6000 2.500 125.4 4.720 0.0450 0.2550 0.0220
0.141 0.235 1.053 0.230 0.650 0.584 0.092 0.0100 0.375 0.000
0.035 0.882 0.0500 8.840 0.035 0.534 0.100 1.500 0.177
1 0 1 0 1 0 1 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
165.00 0.00
3 200503 1 1 1
11.00 180.00 0.800 0.8000 165.00 10.00 60.00 -10.00 100.00 1.000
2.00 5.00 0.1500 0.6000 2.500 125.4 4.720 0.0450 0.2550 0.0220
0.141 0.235 1.053 0.230 0.650 0.584 0.092 0.0100 0.375 0.000
0.035 0.882 0.0500 8.840 0.035 0.534 0.100 1.500 0.177
1 0 1 0 1 0 1 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
165.00 0.00
34 2009 2 2 1
1 200901 1 1 1
11.00 25.00 0.800 0.8000 19.50 3.00 6.00 -1.00 10.00 1.000
2.00 3.00 0.1500 0.6000 2.500 125.4 2.950 0.0300 0.4600 0.0220
0.200 0.294 1.150 0.180 0.550 0.720 0.140 0.0000 0.375 0.000
0.035 0.882 0.0500 6.690 0.035 0.534 0.100 1.500 0.177
1 0 1 0 1 0 1 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
19.50 0.00

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2 200902      1      1      1
  11.00  25.00  0.800 0.8000  19.50   3.00   6.00  -1.00  10.00  1.000
    2.00   3.00 0.1500 0.6000   2.500  125.4   2.950  0.0300 0.4600 0.0220
  0.200  0.294  1.150  0.180  0.550  0.720  0.140  0.0000 0.375  0.000
  0.035  0.882 0.0500  6.690  0.035  0.534  0.100  1.500  0.177
    1      0      1      0      1      0      1      0
    0.00  0.00  0.00  0.00  0.00  0.00
    0.00  0.00  0.00  0.00  0.00  0.00
  19.50  0.00
35 2006 3      2      1
1 200601      0      1      1
  11.00 180.00  0.800 0.8000 165.00  10.00  60.00 -20.00 100.00  1.000
    2.00   5.00 0.1500 0.6000   2.500  125.4   4.720  0.0450 0.2550 0.0220
  0.141  0.235  1.053  0.230  0.500  0.584  0.092  0.0100 0.380  0.000
  0.035  0.882 0.0500  8.840  0.035  0.534  0.100  1.500  0.177
    1      0      1      0      1      0      1      0
    0.00  0.00  0.00  0.00  0.00  0.00
    0.00  0.00  0.00  0.00  0.00  0.00
  165.00  0.00
2 200602      0      1      1
  11.00 180.00  0.800 0.8000 165.00  10.00  60.00 -20.00 100.00  1.000
    2.00   5.00 0.1500 0.6000   2.500  125.4   4.720  0.0450 0.2550 0.0220
  0.141  0.235  1.053  0.230  0.500  0.584  0.092  0.0100 0.380  0.000
  0.035  0.882 0.0500  8.840  0.035  0.534  0.100  1.500  0.177
    1      0      1      0      1      0      1      0
    0.00  0.00  0.00  0.00  0.00  0.00
    0.00  0.00  0.00  0.00  0.00  0.00
  165.00  0.00
3 200603      0      1      1
  11.00 180.00  0.800 0.8000 165.00  10.00  60.00 -20.00 100.00  1.000
    2.00   5.00 0.1500 0.6000   2.500  125.4   4.720  0.0450 0.2550 0.0220
  0.141  0.235  1.053  0.230  0.500  0.584  0.092  0.0100 0.380  0.000
  0.035  0.882 0.0500  8.840  0.035  0.534  0.100  1.500  0.177
    1      0      1      0      1      0      1      0
    0.00  0.00  0.00  0.00  0.00  0.00
    0.00  0.00  0.00  0.00  0.00  0.00
  165.00  0.00
36 2010 2      2      1
1 201001      1      1      1
  11.00  25.00  0.800 0.8000  19.50   3.00   6.00  -1.00  10.00  1.000
    2.00   3.00 0.1500 0.6000   2.500  125.4   2.950  0.0300 0.4600 0.0220
  0.200  0.294  1.150  0.180  0.550  0.720  0.140  0.0000 0.375  0.000
  0.035  0.882 0.0500  6.690  0.035  0.534  0.100  1.500  0.177
    1      0      1      0      1      0      1      0
    0.00  0.00  0.00  0.00  0.00  0.00
    0.00  0.00  0.00  0.00  0.00  0.00
  19.50  0.00
2 201002      1      1      1

```

```

11.00 25.00 0.800 0.8000 19.50 3.00 6.00 -1.00 10.00 1.000
2.00 3.00 0.1500 0.6000 2.500 125.4 2.950 0.0300 0.4600 0.0220
0.200 0.294 1.150 0.180 0.550 0.720 0.140 0.0000 0.375 0.000
0.035 0.882 0.0500 6.690 0.035 0.534 0.100 1.500 0.177
1 0 1 0 1 0 1 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
19.50 0.00
37 5004 3 5 1
1 500401 0 1 1
11.00 40.00 0.800 0.8000 34.00 4.00 18.00 -3.00 30.00 1.000
2.00 3.00 0.1200 0.3670 2.500 125.4 4.000 0.0080 0.1180 0.0220
0.120 0.200 1.300 0.220 0.400 1.250 0.080 0.0000 0.375 0.000
0.035 0.882 0.0400 6.000 0.035 0.534 0.070 1.000 0.177
1 0 1 1 1 0 6 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
34.00 0.00
2 500402 0 1 1
11.00 40.00 0.800 0.8000 34.00 4.00 18.00 -3.00 30.00 1.000
2.00 3.00 0.1200 0.3670 2.500 125.4 4.000 0.0080 0.1180 0.0220
0.120 0.200 1.300 0.220 0.400 1.250 0.080 0.0000 0.375 0.000
0.035 0.882 0.0400 6.000 0.035 0.534 0.070 1.000 0.177
1 0 1 1 1 0 6 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
34.00 0.00
3 500403 0 1 1
11.00 40.00 0.800 0.8000 34.00 4.00 18.00 -3.00 30.00 1.000
2.00 3.00 0.1200 0.3670 2.500 125.4 4.000 0.0080 0.1180 0.0220
0.120 0.200 1.300 0.220 0.400 1.250 0.080 0.0000 0.375 0.000
0.035 0.882 0.0400 6.000 0.035 0.534 0.070 1.000 0.177
1 0 1 1 1 0 6 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
34.00 0.00
38 5003 3 5 1
1 500301 0 1 1
13.80 75.00 0.800 0.8000 67.50 5.00 30.00 -5.00 54.00 1.000
3.00 5.00 0.1000 0.8300 2.500 125.4 2.405 0.0160 0.0850 0.0220
0.178 0.309 1.635 0.220 0.410 1.560 0.135 0.0100 0.375 0.000
0.035 0.882 0.0320 5.364 0.035 0.534 0.095 0.334 0.177
1 0 1 1 1 0 6 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
67.50 0.00
2 500302 0 1 1
13.80 75.00 0.800 0.8000 67.50 5.00 30.00 -5.00 54.00 1.000

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    3.00  5.00 0.1000 0.8300  2.500 125.4  2.405  0.0160 0.0850 0.0220
    0.178 0.309 1.635  0.220  0.410  1.560  0.135  0.0100 0.375  0.000
    0.035 0.882 0.0320 5.364  0.035  0.534  0.095  0.334  0.177
      1    0    1    1    1    0    6    0
    0.00  0.00  0.00  0.00  0.00  0.00
    0.00  0.00  0.00  0.00  0.00  0.00
    67.50  0.00
3  500303    0    1    1
    13.80 20.00  0.800 0.8000 15.00  5.00 12.00  -2.00 12.00  1.000
      2.00  3.00 0.1500 0.6000  2.500 125.4  2.950  0.0300 0.4900 0.0220
    0.200 0.294 1.150  0.220  0.600  0.720  0.140  0.0100 0.375  0.000
    0.035 0.882 0.0500 6.690  0.035  0.534  0.100  1.500  0.177
      1    0    1    1    1    0    6    0
    0.00  0.00  0.00  0.00  0.00  0.00
    0.00  0.00  0.00  0.00  0.00  0.00
    15.00  0.00
39  8001  3    8    1
1  800101    0    1    1
    10.50 120.00  0.800 0.8000 100.00 10.00 40.00  -7.00 66.60  0.900
      2.00  4.00 0.1500 0.6000  2.500 125.4  4.880  0.0080 0.2110 0.0220
    0.205 0.271 0.928  0.200  0.500  0.609  0.116  0.0100 0.380  0.000
    0.035 0.882 0.0500 8.430  0.035  0.534  0.070  1.500  0.177
      1    0    1    1    1    0    3    0
    0.00  0.00  0.00  0.00  0.00  0.00
    0.00  0.00  0.00  0.00  0.00  0.00
    100.00  0.00
2  800102    0    1    1
    10.50 120.00  0.800 0.8000 100.00 10.00 40.00  -7.00 66.60  0.900
      2.00  4.00 0.1500 0.6000  2.500 125.4  4.880  0.0080 0.2110 0.0220
    0.205 0.271 0.928  0.200  0.500  0.609  0.116  0.0100 0.380  0.000
    0.035 0.882 0.0500 8.430  0.035  0.534  0.070  1.500  0.177
      1    0    1    1    1    0    3    0
    0.00  0.00  0.00  0.00  0.00  0.00
    0.00  0.00  0.00  0.00  0.00  0.00
    100.00  0.00
3  800103    0    1    1
    10.50 120.00  0.800 0.8000 100.00 10.00 40.00  -7.00 66.60  0.900
      2.00  4.00 0.1500 0.6000  2.500 125.4  4.880  0.0080 0.2110 0.0220
    0.205 0.271 0.928  0.200  0.500  0.609  0.116  0.0100 0.380  0.000
    0.035 0.882 0.0500 8.430  0.035  0.534  0.070  1.500  0.177
      1    0    1    1    1    0    3    0
    0.00  0.00  0.00  0.00  0.00  0.00
    0.00  0.00  0.00  0.00  0.00  0.00
    100.00  0.00
40  4003  6    4    1
1  400301    1    1    1
    11.00 10.00  0.800 0.8000  8.00  1.00  3.00  -1.00  5.00  0.900
      1.00  2.00 0.1500 0.6000  2.500 125.4  2.600  0.0080 0.1200 0.0220

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0.200	0.408	0.910	0.170	0.500	0.580	0.140	0.0100	0.375	0.000
0.035	0.882	0.0500	4.200	0.035	0.534	0.100	1.500	0.177	
1	0	1	0	1	0	1	0		
0.00	0.00	0.00	0.00	0.00	0.00				
0.00	0.00	0.00	0.00	0.00	0.00				
8.00	0.00								
2 400302	1	1	1						
11.00	10.00	0.800	0.8000	8.00	1.00	3.00	-1.00	5.00	0.900
1.00	2.00	0.1500	0.6000	2.500	125.4	2.600	0.0080	0.1200	0.0220
0.200	0.408	0.910	0.170	0.500	0.580	0.140	0.0100	0.375	0.000
0.035	0.882	0.0500	4.200	0.035	0.534	0.100	1.500	0.177	
1	0	1	0	1	0	1	0		
0.00	0.00	0.00	0.00	0.00	0.00				
0.00	0.00	0.00	0.00	0.00	0.00				
8.00	0.00								
3 400303	1	1	1						
11.00	10.00	0.800	0.8000	8.00	1.00	3.00	-1.00	5.00	0.900
1.00	2.00	0.1500	0.6000	2.500	125.4	2.600	0.0080	0.1200	0.0220
0.200	0.408	0.910	0.170	0.500	0.580	0.140	0.0100	0.375	0.000
0.035	0.882	0.0500	4.200	0.035	0.534	0.100	1.500	0.177	
1	0	1	0	1	0	1	0		
0.00	0.00	0.00	0.00	0.00	0.00				
0.00	0.00	0.00	0.00	0.00	0.00				
8.00	0.00								
4 400304	1	1	1						
11.00	10.00	0.800	0.8000	8.00	1.00	3.00	-1.00	5.00	0.900
1.00	2.00	0.1500	0.6000	2.500	125.4	2.600	0.0080	0.1200	0.0220
0.200	0.408	0.910	0.170	0.500	0.580	0.140	0.0100	0.375	0.000
0.035	0.882	0.0500	4.200	0.035	0.534	0.100	1.500	0.177	
1	0	1	0	1	0	1	0		
0.00	0.00	0.00	0.00	0.00	0.00				
0.00	0.00	0.00	0.00	0.00	0.00				
8.00	0.00								
5 400305	1	1	1						
11.00	10.00	0.800	0.8000	8.00	1.00	3.00	-1.00	5.00	0.900
1.00	2.00	0.1500	0.6000	2.500	125.4	2.600	0.0080	0.1200	0.0220
0.200	0.408	0.910	0.170	0.500	0.580	0.140	0.0100	0.375	0.000
0.035	0.882	0.0500	4.200	0.035	0.534	0.100	1.500	0.177	
1	0	1	0	1	0	1	0		
0.00	0.00	0.00	0.00	0.00	0.00				
0.00	0.00	0.00	0.00	0.00	0.00				
8.00	0.00								
6 400306	1	1	1						
11.00	10.00	0.800	0.8000	8.00	1.00	3.00	-1.00	5.00	0.900
1.00	2.00	0.1500	0.6000	2.500	125.4	2.600	0.0080	0.1200	0.0220
0.200	0.408	0.910	0.170	0.500	0.580	0.140	0.0100	0.375	0.000
0.035	0.882	0.0500	4.200	0.035	0.534	0.100	1.500	0.177	
1	0	1	0	1	0	1	0		

```

0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
8.00 0.00
41 5002 6 5 1
1 500201 2 1 1
13.80 35.00 0.800 0.8000 30.00 2.00 11.00 -2.00 17.50 1.000
2.00 3.00 0.1100 0.5000 2.500 125.4 4.000 0.0400 0.2700 0.0220
0.250 0.300 1.250 0.200 0.550 0.700 0.150 0.0100 0.375 0.000
0.035 0.882 0.0400 4.000 0.035 0.534 0.060 1.500 0.177
1 0 1 0 1 0 6 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
30.00 0.00
2 500202 2 1 1
13.80 35.00 0.800 0.8000 30.00 2.00 11.00 -2.00 17.50 1.000
2.00 3.00 0.1100 0.5000 2.500 125.4 4.000 0.0400 0.2700 0.0220
0.250 0.300 1.250 0.200 0.550 0.700 0.150 0.0100 0.375 0.000
0.035 0.882 0.0400 4.000 0.035 0.534 0.060 1.500 0.177
1 0 1 0 1 0 6 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
30.00 0.00
3 500203 2 1 1
13.80 35.00 0.800 0.8000 30.00 2.00 11.00 -2.00 17.50 1.000
2.00 3.00 0.1100 0.5000 2.500 125.4 4.000 0.0400 0.2700 0.0220
0.250 0.300 1.250 0.200 0.550 0.700 0.150 0.0100 0.375 0.000
0.035 0.882 0.0400 4.000 0.035 0.534 0.060 1.500 0.177
1 0 1 0 1 0 6 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
30.00 0.00
4 500204 2 1 1
13.80 35.00 0.800 0.8000 30.00 2.00 11.00 -2.00 17.50 1.000
2.00 3.00 0.1100 0.5000 2.500 125.4 4.000 0.0400 0.2700 0.0220
0.250 0.300 1.250 0.200 0.550 0.700 0.150 0.0100 0.375 0.000
0.035 0.882 0.0400 4.000 0.035 0.534 0.060 1.500 0.177
1 0 1 0 1 0 6 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
30.00 0.00
5 500205 2 1 1
13.80 35.00 0.800 0.8000 30.00 2.00 11.00 -2.00 17.50 1.000
2.00 3.00 0.1100 0.5000 2.500 125.4 4.000 0.0400 0.2700 0.0220
0.250 0.300 1.250 0.200 0.550 0.700 0.150 0.0100 0.375 0.000
0.035 0.882 0.0400 4.000 0.035 0.534 0.060 1.500 0.177
1 0 1 0 1 0 6 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00

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30.00 0.00
6 500206 2 1 1
13.80 35.00 0.800 0.8000 30.00 2.00 11.00 -2.00 17.50 1.000
2.00 3.00 0.1100 0.5000 2.500 125.4 4.000 0.0400 0.2700 0.0220
0.250 0.300 1.250 0.200 0.550 0.700 0.150 0.0100 0.375 0.000
0.035 0.882 0.0400 4.000 0.035 0.534 0.060 1.500 0.177
1 0 1 0 1 0 6 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
30.00 0.00
42 8002 2 8 1
1 800201 0 1 1
15.80 225.00 0.800 0.8000 210.00 15.00 75.00 -12.50 125.00 1.000
3.00 6.00 0.1000 0.8000 2.500 125.4 3.700 0.0080 0.2480 0.0220
0.200 0.290 2.120 0.250 0.556 2.000 0.100 0.0100 0.380 0.000
0.035 0.882 0.0400 7.000 0.035 0.534 0.200 2.500 0.177
1 0 1 1 1 0 3 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
210.00 0.00
2 800202 0 1 1
15.80 225.00 0.800 0.8000 210.00 15.00 75.00 -12.50 125.00 1.000
3.00 6.00 0.1000 0.8000 2.500 125.4 3.700 0.0080 0.2480 0.0220
0.200 0.290 2.120 0.250 0.556 2.000 0.100 0.0100 0.380 0.000
0.035 0.882 0.0400 7.000 0.035 0.534 0.200 2.500 0.177
1 0 1 1 1 0 3 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
210.00 0.00
43 9004 3 9 1
1 900401 0 1 1
11.00 50.00 0.800 0.8000 40.00 3.00 22.00 -4.00 38.00 0.900
2.00 3.00 0.1500 0.6000 2.500 125.4 4.000 0.0080 0.3400 0.0220
0.217 0.335 0.950 0.210 0.500 0.504 0.130 0.0100 0.380 0.000
0.035 0.882 0.0500 5.600 0.035 0.534 0.100 1.500 0.177
1 0 1 0 1 0 6 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
40.00 0.00
2 900402 0 1 1
11.00 50.00 0.800 0.8000 40.00 3.00 22.00 -4.00 38.00 0.900
2.00 3.00 0.1500 0.6000 2.500 125.4 4.000 0.0080 0.3400 0.0220
0.217 0.335 0.950 0.210 0.500 0.504 0.130 0.0100 0.380 0.000
0.035 0.882 0.0500 5.600 0.035 0.534 0.100 1.500 0.177
1 0 1 0 1 0 6 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
40.00 0.00

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3 900403      0      1      1
  11.00  50.00  0.800 0.8000  40.00   3.00  22.00   -4.00  38.00  0.900
    2.00   3.00 0.1500 0.6000  2.500  125.4  4.000  0.0080 0.3400 0.0220
  0.217  0.335  0.950  0.210  0.500  0.504  0.130  0.0100 0.380  0.000
  0.035  0.882 0.0500  5.600  0.035  0.534  0.100  1.500  0.177
    1      0      1      0      1      0      6      0
    0.00  0.00  0.00  0.00  0.00  0.00
    0.00  0.00  0.00  0.00  0.00  0.00
  40.00  0.00
44 4001 5      4      1
1 400101      0      1      1
  15.80 125.00  0.800 0.8000 110.00  10.00  55.00   -9.00  95.00  1.000
    3.00   5.00 0.1500 0.6000  2.500  125.4  5.600  0.0170 0.1340 0.0220
  0.225  0.303  1.970  0.240  0.490  1.890  0.153  0.0100 0.375  0.000
  0.035  0.882 0.0500  6.840  0.035  0.534  0.050  1.000  0.177
    1      0      1      1      1      0      6      0
    0.00  0.00  0.00  0.00  0.00  0.00
    0.00  0.00  0.00  0.00  0.00  0.00
  110.00  0.00
2 400102      0      1      1
  15.80 125.00  0.800 0.8000 110.00  10.00  55.00   -9.00  95.00  1.000
    3.00   5.00 0.1500 0.6000  2.500  125.4  5.600  0.0170 0.1340 0.0220
  0.225  0.303  1.970  0.240  0.490  1.890  0.153  0.0100 0.375  0.000
  0.035  0.882 0.0500  6.840  0.035  0.534  0.050  1.000  0.177
    1      0      1      1      1      0      6      0
    0.00  0.00  0.00  0.00  0.00  0.00
    0.00  0.00  0.00  0.00  0.00  0.00
  110.00  0.00
3 400103      0      1      1
  15.80 125.00  0.800 0.8000 110.00  10.00  55.00   -9.00  95.00  1.000
    3.00   5.00 0.1500 0.6000  2.500  125.4  5.600  0.0170 0.1340 0.0220
  0.225  0.303  1.970  0.240  0.490  1.890  0.153  0.0100 0.375  0.000
  0.035  0.882 0.0500  6.840  0.035  0.534  0.050  1.000  0.177
    1      0      1      1      1      0      6      0
    0.00  0.00  0.00  0.00  0.00  0.00
    0.00  0.00  0.00  0.00  0.00  0.00
  110.00  0.00
4 400104      0      1      1
  15.80 125.00  0.800 0.8000 110.00  10.00  55.00   -9.00  95.00  1.000
    3.00   5.00 0.1500 0.6000  2.500  125.4  5.600  0.0170 0.1340 0.0220
  0.225  0.303  1.970  0.240  0.490  1.890  0.153  0.0100 0.375  0.000
  0.035  0.882 0.0500  6.840  0.035  0.534  0.050  1.000  0.177
    1      0      1      1      1      0      6      0
    0.00  0.00  0.00  0.00  0.00  0.00
    0.00  0.00  0.00  0.00  0.00  0.00
  110.00  0.00
5 400105      0      1      1
  15.80 247.00  0.800 0.8000 210.00  20.00 120.00  -20.00 195.00  1.000

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      5.00 10.00 0.1000 0.8000 2.500 125.4 3.700 0.0080 0.2480 0.0220
      0.230 0.338 2.225 0.250 0.556 2.110 0.100 0.0100 0.380 0.000
      0.035 0.882 0.0400 7.000 0.035 0.000 0.200 2.500 0.177
      1      0      1      0      1      0      6      0
      0.00 0.00 0.00 0.00 0.00 0.00
      0.00 0.00 0.00 0.00 0.00 0.00
      210.00 0.00
45  8010 4      8      1
      1 801001      0      1      1
      16.50 225.00 0.800 0.8000 210.00 10.00 105.00 -10.50 175.00 1.000
      3.00 6.00 0.1000 0.8000 2.500 125.4 3.700 0.0080 0.2480 0.0220
      0.230 0.338 2.225 0.250 0.556 2.110 0.100 0.0100 0.380 0.000
      0.035 0.882 0.0400 7.000 0.035 0.534 0.200 2.500 0.177
      1      0      1      0      1      0      5      0
      0.00 0.00 0.00 0.00 0.00 0.00
      0.00 0.00 0.00 0.00 0.00 0.00
      210.00 0.00
      2 801002      0      1      1
      16.50 225.00 0.800 0.8000 210.00 10.00 105.00 -10.50 175.00 1.000
      3.00 6.00 0.1000 0.8000 2.500 125.4 3.700 0.0080 0.2480 0.0220
      0.230 0.338 2.225 0.250 0.556 2.110 0.100 0.0100 0.380 0.000
      0.035 0.882 0.0400 7.000 0.035 0.534 0.200 2.500 0.177
      1      0      1      0      1      0      5      0
      0.00 0.00 0.00 0.00 0.00 0.00
      0.00 0.00 0.00 0.00 0.00 0.00
      210.00 0.00
      3 801003      0      1      1
      16.50 225.00 0.800 0.8000 210.00 10.00 105.00 -10.50 175.00 1.000
      3.00 6.00 0.1000 0.8000 2.500 125.4 3.700 0.0080 0.2480 0.0220
      0.230 0.338 2.225 0.250 0.556 2.110 0.100 0.0100 0.380 0.000
      0.035 0.882 0.0400 7.000 0.035 0.534 0.200 2.500 0.177
      1      0      1      0      1      0      5      0
      0.00 0.00 0.00 0.00 0.00 0.00
      0.00 0.00 0.00 0.00 0.00 0.00
      210.00 0.00
      4 801004      0      1      1
      16.50 225.00 0.800 0.8000 210.00 10.00 105.00 -10.50 175.00 1.000
      3.00 6.00 0.1000 0.8000 2.500 125.4 3.700 0.0080 0.2480 0.0220
      0.230 0.338 2.225 0.250 0.556 2.110 0.100 0.0100 0.380 0.000
      0.035 0.882 0.0400 7.000 0.035 0.534 0.200 2.500 0.177
      1      0      1      0      1      0      5      0
      0.00 0.00 0.00 0.00 0.00 0.00
      0.00 0.00 0.00 0.00 0.00 0.00
      210.00 0.00
46  8011 4      8      1
      1 801101      2      1      1
      11.00 150.00 0.800 0.8000 131.00 10.00 60.00 -10.00 100.00 0.900
      2.00 5.00 0.1500 0.6000 2.500 125.4 3.200 0.0284 0.2160 0.0220

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0.120 0.204 1.520 0.200 0.472 1.368 0.080 0.0100 0.380 0.000
0.035 0.882 0.0420 11.300 0.035 0.534 0.070 0.500 0.177
1 0 1 0 1 0 4 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
131.00 0.00
2 801102 2 1 1
11.00 150.00 0.800 0.8000 131.00 10.00 60.00 -10.00 100.00 0.900
2.00 5.00 0.1500 0.6000 2.500 125.4 3.200 0.0284 0.2160 0.0220
0.120 0.204 1.520 0.200 0.472 1.368 0.080 0.0100 0.380 0.000
0.035 0.882 0.0420 11.300 0.035 0.534 0.070 0.500 0.177
1 0 1 0 1 0 4 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
131.00 0.00
3 801103 2 1 1
11.00 150.00 0.800 0.8000 131.00 10.00 60.00 -10.00 100.00 0.900
2.00 5.00 0.1500 0.6000 2.500 125.4 3.200 0.0284 0.2160 0.0220
0.120 0.204 1.520 0.200 0.472 1.368 0.080 0.0100 0.380 0.000
0.035 0.882 0.0420 11.300 0.035 0.534 0.070 0.500 0.177
1 0 1 0 1 0 4 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
131.00 0.00
4 801104 2 1 1
11.00 150.00 0.800 0.8000 131.00 10.00 60.00 -10.00 100.00 0.900
2.00 5.00 0.1500 0.6000 2.500 125.4 3.200 0.0284 0.2160 0.0220
0.120 0.204 1.520 0.200 0.472 1.368 0.080 0.0100 0.380 0.000
0.035 0.882 0.0420 11.300 0.035 0.534 0.070 0.500 0.177
1 0 1 0 1 0 4 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
131.00 0.00
47 9006 2 9 1
1 900601 0 1 1
11.00 35.00 0.800 0.8000 30.00 3.00 14.00 -3.00 22.50 0.900
2.00 3.00 0.1500 0.6000 2.500 125.4 5.025 0.0400 0.2700 0.0220
0.091 0.191 0.752 0.210 0.500 0.481 0.081 0.0100 0.380 0.000
0.035 0.882 0.0500 5.520 0.035 0.534 0.100 1.500 0.177
1 0 1 0 1 0 6 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
30.00 0.00
2 900602 0 1 1
11.00 35.00 0.800 0.8000 30.00 3.00 14.00 -3.00 22.50 0.900
2.00 3.00 0.1500 0.6000 2.500 125.4 5.025 0.0400 0.2700 0.0220
0.091 0.191 0.752 0.210 0.500 0.481 0.081 0.0100 0.380 0.000
0.035 0.882 0.0500 5.520 0.035 0.534 0.100 1.500 0.177

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      1      0      1      0      1      0      6      0
      0.00  0.00  0.00  0.00  0.00  0.00
      0.00  0.00  0.00  0.00  0.00  0.00
      30.00  0.00
48  8006  4      8      1
1  800601      1      1      1
      13.80  25.00  0.800 0.8000 112.00   5.00  50.00 -15.00 112.00  2.200
           0.20   0.25 0.1500 0.6000  2.500 125.4  2.950  0.0300 0.4600 0.0220
      0.200 0.294  1.150 0.120  0.500 0.720  0.140  0.0010  0.380  0.000
      0.035 0.882 0.0500 6.690  0.035 0.534  0.100  1.500  0.177
           1      0      1      0      1      0      6      0
           0.00  0.00  0.00  0.00  0.00  0.00
           0.00  0.00  0.00  0.00  0.00  0.00
           20.00  0.00
2  800602      1      1      1
      13.80  25.00  0.800 0.8000 112.00   5.00  50.00 -15.00 112.00  2.200
           0.20   0.25 0.1500 0.6000  2.500 125.4  2.950  0.0300 0.4600 0.0220
      0.200 0.294  1.150 0.120  0.500 0.720  0.140  0.0010  0.380  0.000
      0.035 0.882 0.0500 6.690  0.035 0.534  0.100  1.500  0.177
           1      0      1      0      1      0      6      0
           0.00  0.00  0.00  0.00  0.00  0.00
           0.00  0.00  0.00  0.00  0.00  0.00
           20.00  0.00
3  800603      1      1      1
      13.80  25.00  0.800 0.8000 112.00   5.00  50.00 -15.00 112.00  2.200
           0.20   0.25 0.1500 0.6000  2.500 125.4  2.950  0.0300 0.4600 0.0220
      0.200 0.294  1.150 0.120  0.500 0.720  0.140  0.0010  0.380  0.000
      0.035 0.882 0.0500 6.690  0.035 0.534  0.100  1.500  0.177
           1      0      1      0      1      0      6      0
           0.00  0.00  0.00  0.00  0.00  0.00
           0.00  0.00  0.00  0.00  0.00  0.00
           20.00  0.00
4  800604      1      1      1
      13.80  25.00  0.800 0.8000 112.00   5.00  50.00 -15.00 112.00  2.200
           0.20   0.25 0.1500 0.6000  2.500 125.4  2.950  0.0300 0.4600 0.0220
      0.200 0.294  1.150 0.120  0.500 0.720  0.140  0.0010  0.380  0.000
      0.035 0.882 0.0500 6.690  0.035 0.534  0.100  1.500  0.177
           1      0      1      0      1      0      6      0
           0.00  0.00  0.00  0.00  0.00  0.00
           0.00  0.00  0.00  0.00  0.00  0.00
           20.00  0.00
49  8012  2      8      1
1  801201      0      1      1
      11.00 160.00  0.800 0.8000 146.50  10.00  60.00 -10.00 100.00  0.900
           2.00   5.00 0.1500 0.6000  2.500 125.4  2.704  0.0450 0.2550 0.0220
      0.125 0.179  1.020 0.200  0.500 1.000  0.100  0.0100  0.380  0.000
      0.035 0.882 0.0500 6.000  0.035 0.534  0.100  1.500  0.177
           1      0      1      1      1      0      4      0

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    0.00  0.00  0.00  0.00  0.00  0.00
    0.00  0.00  0.00  0.00  0.00  0.00
146.50  0.00
2 801202    0    1    1
    11.00 160.00 0.800 0.8000 146.50 10.00 60.00 -10.00 100.00 0.900
    2.00  5.00 0.1500 0.6000 2.500 125.4 2.704 0.0450 0.2550 0.0220
    0.125 0.179 1.020 0.200 0.500 1.000 0.100 0.0100 0.380 0.000
    0.035 0.882 0.0500 6.000 0.035 0.534 0.100 1.500 0.177
    1      0      1      1      1      0      4      0
    0.00  0.00  0.00  0.00  0.00  0.00
    0.00  0.00  0.00  0.00  0.00  0.00
146.50  0.00
50 7013 4    7    1
1 701301    1    1    1
    11.00 70.00 0.800 0.8000 60.00  4.00 18.00 -3.00 30.00 1.000
    2.00  5.00 0.1500 0.6000 2.500 125.4 4.940 0.0080 0.1300 0.0220
    0.162 0.250 1.033 0.220 0.500 0.649 0.080 0.0100 0.380 0.000
    0.035 0.882 0.0500 5.700 0.035 0.534 0.100 1.500 0.177
    1      0      1      0      1      0      1      0
    0.00  0.00  0.00  0.00  0.00  0.00
    0.00  0.00  0.00  0.00  0.00  0.00
60.00  0.00
2 701302    1    1    1
    11.00 70.00 0.800 0.8000 60.00  4.00 18.00 -3.00 30.00 1.000
    2.00  5.00 0.1500 0.6000 2.500 125.4 4.940 0.0080 0.1300 0.0220
    0.162 0.250 1.033 0.220 0.500 0.649 0.080 0.0100 0.380 0.000
    0.035 0.882 0.0500 5.700 0.035 0.534 0.100 1.500 0.177
    1      0      1      0      1      0      1      0
    0.00  0.00  0.00  0.00  0.00  0.00
    0.00  0.00  0.00  0.00  0.00  0.00
60.00  0.00
3 701303    1    1    1
    11.00 70.00 0.800 0.8000 60.00  4.00 18.00 -3.00 30.00 1.000
    2.00  5.00 0.1500 0.6000 2.500 125.4 4.940 0.0080 0.1300 0.0220
    0.162 0.250 1.033 0.220 0.500 0.649 0.080 0.0100 0.380 0.000
    0.035 0.882 0.0500 5.700 0.035 0.534 0.100 1.500 0.177
    1      0      1      0      1      0      1      0
    0.00  0.00  0.00  0.00  0.00  0.00
    0.00  0.00  0.00  0.00  0.00  0.00
60.00  0.00
4 701304    1    1    1
    11.00 70.00 0.800 0.8000 60.00  4.00 18.00 -3.00 30.00 1.000
    2.00  5.00 0.1500 0.6000 2.500 125.4 4.940 0.0080 0.1300 0.0220
    0.162 0.250 1.033 0.220 0.500 0.649 0.080 0.0100 0.380 0.000
    0.035 0.882 0.0500 5.700 0.035 0.534 0.100 1.500 0.177
    1      0      1      0      1      0      1      0
    0.00  0.00  0.00  0.00  0.00  0.00
    0.00  0.00  0.00  0.00  0.00  0.00

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```

60.00 0.00
51 7004 2 7 1
1 700401 0 1 1
11.00 125.00 0.800 0.8000 110.00 10.00 45.00 -8.00 75.00 1.000
2.00 5.00 0.1500 0.6000 2.500 125.4 4.880 0.0080 0.2110 0.0220
0.205 0.271 0.928 0.220 0.500 0.609 0.116 0.0100 0.380 0.000
0.035 0.882 0.0500 8.430 0.035 0.534 0.070 1.000 0.177
1 0 1 1 1 0 3 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
110.00 0.00
2 700402 0 1 1
11.00 125.00 0.800 0.8000 110.00 10.00 45.00 -8.00 75.00 1.000
2.00 5.00 0.1500 0.6000 2.500 125.4 4.880 0.0080 0.2110 0.0220
0.205 0.271 0.928 0.220 0.500 0.609 0.116 0.0100 0.380 0.000
0.035 0.882 0.0500 8.430 0.035 0.534 0.070 1.000 0.177
1 0 1 1 1 0 3 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
110.00 0.00
52 8007 2 8 1
1 800701 2 1 1
11.50 110.00 0.800 0.8000 102.00 5.00 60.00 -10.00 100.00 0.900
2.00 3.00 0.1500 0.6000 2.500 125.4 4.040 0.0270 0.2690 0.0220
0.190 0.300 0.950 0.210 0.500 0.590 0.150 0.0100 0.380 0.000
0.035 0.882 0.0500 2.300 0.035 0.534 0.100 1.500 0.177
1 0 1 1 1 0 4 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
102.00 0.00
2 800702 2 1 1
11.50 110.00 0.800 0.8000 102.00 5.00 60.00 -10.00 100.00 0.900
2.00 3.00 0.1500 0.6000 2.500 125.4 4.040 0.0270 0.2690 0.0220
0.190 0.300 0.950 0.210 0.500 0.590 0.150 0.0100 0.380 0.000
0.035 0.882 0.0500 2.300 0.035 0.534 0.100 1.500 0.177
1 0 1 1 1 0 4 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
102.00 0.00
53 7009 5 7 1
1 700901 0 1 1
15.80 225.00 0.800 0.8000 200.00 10.00 96.00 -20.00 160.00 1.000
2.00 5.00 0.1000 0.8000 2.500 125.4 3.700 0.0080 0.2480 0.0220
0.230 0.338 2.225 0.220 0.556 2.110 0.100 0.0100 0.380 0.000
0.035 0.882 0.0400 7.000 0.035 0.534 0.200 2.500 0.177
1 0 1 0 1 0 2 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00

```

```

200.00 0.00
2 700902 0 1 1
15.80 225.00 0.800 0.8000 200.00 10.00 96.00 -20.00 160.00 1.000
2.00 5.00 0.1000 0.8000 2.500 125.4 3.700 0.0080 0.2480 0.0220
0.230 0.338 2.225 0.220 0.556 2.110 0.100 0.0100 0.380 0.000
0.035 0.882 0.0400 7.000 0.035 0.534 0.200 2.500 0.177
1 0 1 0 1 0 2 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
200.00 0.00
3 700903 0 1 1
15.80 225.00 0.800 0.8000 200.00 10.00 96.00 -20.00 160.00 1.000
2.00 5.00 0.1000 0.8000 2.500 125.4 3.700 0.0080 0.2480 0.0220
0.230 0.338 2.225 0.220 0.556 2.110 0.100 0.0100 0.380 0.000
0.035 0.882 0.0400 7.000 0.035 0.534 0.200 2.500 0.177
1 0 1 0 1 0 2 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
200.00 0.00
4 700904 0 1 1
15.80 225.00 0.800 0.8000 200.00 10.00 96.00 -20.00 160.00 1.000
2.00 5.00 0.1000 0.8000 2.500 125.4 3.700 0.0080 0.2480 0.0220
0.230 0.338 2.225 0.220 0.556 2.110 0.100 0.0100 0.380 0.000
0.035 0.882 0.0400 7.000 0.035 0.534 0.200 2.500 0.177
1 0 1 0 1 0 2 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
200.00 0.00
5 700905 0 1 1
15.80 225.00 0.800 0.8000 200.00 10.00 96.00 -20.00 160.00 1.000
2.00 5.00 0.1000 0.8000 2.500 125.4 3.700 0.0080 0.2480 0.0220
0.230 0.338 2.225 0.220 0.556 2.110 0.100 0.0100 0.380 0.000
0.035 0.882 0.0400 7.000 0.035 0.534 0.200 2.500 0.177
1 0 1 0 1 0 2 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
200.00 0.00
54 7021 3 7 1
1 702101 1 1 1
11.00 30.00 0.800 0.8000 24.00 4.00 8.00 -5.00 13.50 1.000
1.00 2.00 0.1000 0.8300 2.500 125.4 7.000 0.0082 0.1200 0.0220
0.150 0.270 1.900 0.190 0.600 1.800 0.100 0.0000 0.380 0.000
0.035 0.882 0.0350 5.500 0.035 0.534 0.070 0.750 0.177
1 0 1 0 1 0 1 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
24.00 0.00
2 702102 1 1 1

```

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11.00 30.00 0.800 0.8000 24.00 4.00 8.00 -5.00 13.50 1.000
1.00 2.00 0.1000 0.8300 2.500 125.4 7.000 0.0082 0.1200 0.0220
0.150 0.270 1.900 0.190 0.600 1.800 0.100 0.0000 0.380 0.000
0.035 0.882 0.0350 5.500 0.035 0.534 0.070 0.750 0.177
1 0 1 0 1 0 1 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
24.00 0.00
3 702103 1 1 1
11.00 30.00 0.800 0.8000 24.00 4.00 8.00 -5.00 13.50 1.000
1.00 2.00 0.1000 0.8300 2.500 125.4 7.000 0.0082 0.1200 0.0220
0.150 0.270 1.900 0.190 0.600 1.800 0.100 0.0000 0.380 0.000
0.035 0.882 0.0350 5.500 0.035 0.534 0.070 0.750 0.177
1 0 1 0 1 0 1 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
24.00 0.00
55 7019 3 7 1
1 701901 1 1 1
11.00 50.00 0.800 0.8000 40.00 4.00 8.00 -5.00 13.50 1.000
2.00 3.00 0.1500 0.6000 2.500 125.4 4.000 0.0080 0.3400 0.0220
0.217 0.335 0.950 0.220 0.500 0.504 0.130 0.0100 0.380 0.000
0.035 0.882 0.5000 5.600 0.035 0.534 0.100 1.500 0.177
1 0 1 0 1 0 1 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
40.00 0.00
2 701902 1 1 1
11.00 50.00 0.800 0.8000 40.00 4.00 8.00 -5.00 13.50 1.000
2.00 3.00 0.1500 0.6000 2.500 125.4 4.000 0.0080 0.3400 0.0220
0.217 0.335 0.950 0.220 0.500 0.504 0.130 0.0100 0.380 0.000
0.035 0.882 0.5000 5.600 0.035 0.534 0.100 1.500 0.177
1 0 1 0 1 0 1 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
40.00 0.00
3 701903 1 1 1
11.00 50.00 0.800 0.8000 40.00 4.00 8.00 -5.00 13.50 1.000
2.00 3.00 0.1500 0.6000 2.500 125.4 4.000 0.0080 0.3400 0.0220
0.217 0.335 0.950 0.220 0.500 0.504 0.130 0.0100 0.380 0.000
0.035 0.882 0.5000 5.600 0.035 0.534 0.100 1.500 0.177
1 0 1 0 1 0 1 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
40.00 0.00
56 4002 3 4 1
1 400201 0 1 1
11.00 75.00 0.800 0.8000 60.00 4.00 24.00 -4.00 40.00 0.900

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    2.00  3.00 0.1000 0.9000  2.500 125.4  4.000  0.0160 0.0850 0.0220
    0.123 0.213 1.344  0.190  0.461 1.254  0.070  0.0100 0.375  0.000
    0.035 0.882 0.0300 6.100  0.035 0.534  0.030  1.000  0.177
      1    0    1    0    1    0    6    0
    0.00  0.00  0.00  0.00  0.00  0.00
    0.00  0.00  0.00  0.00  0.00  0.00
    60.00  0.00
2 400202    0    1    1
    11.00 75.00  0.800 0.8000 60.00  4.00 24.00  -4.00 40.00  0.900
      2.00  3.00 0.1000 0.9000  2.500 125.4  4.000  0.0160 0.0850 0.0220
    0.123 0.213 1.344  0.190  0.461 1.254  0.070  0.0100 0.375  0.000
    0.035 0.882 0.0300 6.100  0.035 0.534  0.030  1.000  0.177
      1    0    1    0    1    0    6    0
    0.00  0.00  0.00  0.00  0.00  0.00
    0.00  0.00  0.00  0.00  0.00  0.00
    60.00  0.00
3 400203    0    1    1
    11.00 75.00  0.800 0.8000 60.00  4.00 24.00  -4.00 40.00  0.900
      2.00  3.00 0.1000 0.9000  2.500 125.4  4.000  0.0160 0.0850 0.0220
    0.123 0.213 1.344  0.190  0.461 1.254  0.070  0.0100 0.375  0.000
    0.035 0.882 0.0300 6.100  0.035 0.534  0.030  1.000  0.177
      1    0    1    0    1    0    6    0
    0.00  0.00  0.00  0.00  0.00  0.00
    0.00  0.00  0.00  0.00  0.00  0.00
    60.00  0.00
57 7010 2    7    1
1 701001    0    1    1
    21.00 600.00  0.800 0.8000 500.00 50.00 270.00 -45.00 450.00  1.000
      5.00 10.00 0.1000 0.8000  2.500 125.4  3.070  0.0260 0.2150 0.0220
    0.235 0.309 2.400  0.230  0.500 2.330  0.190  0.0100 0.380  0.000
    0.035 0.882 0.0250 8.300  0.035 0.534  0.230  0.720  0.177
      1    0    1    0    1    0    3    0
    0.00  0.00  0.00  0.00  0.00  0.00
    0.00  0.00  0.00  0.00  0.00  0.00
    500.00  0.00
2 701002    0    1    1
    21.00 600.00  0.800 0.8000 500.00 50.00 270.00 -45.00 450.00  1.000
      5.00 10.00 0.1000 0.8000  2.500 125.4  3.070  0.0260 0.2150 0.0220
    0.235 0.309 2.400  0.230  0.500 2.330  0.190  0.0100 0.380  0.000
    0.035 0.882 0.0250 8.300  0.035 0.534  0.230  0.720  0.177
      1    0    1    0    1    0    3    0
    0.00  0.00  0.00  0.00  0.00  0.00
    0.00  0.00  0.00  0.00  0.00  0.00
    500.00  0.00
58 7002 4    7    1
1 700201    1    1    1
    11.00 40.00  0.800 0.8000 36.00  2.50  7.50  -2.00 12.50  1.000
      2.00  3.00 0.1200 0.3670  2.500 125.4  4.000  0.0080 0.1180 0.0220

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0.120 0.200 1.300 0.200 0.400 1.250 0.080 0.0100 0.375 0.000
0.035 0.882 0.0400 6.000 0.035 0.534 0.070 1.000 0.177
1 0 1 0 1 0 6 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
36.00 0.00
2 700202 1 1 1
11.00 40.00 0.800 0.8000 36.00 2.50 7.50 -2.00 12.50 1.000
2.00 3.00 0.1200 0.3670 2.500 125.4 4.000 0.0080 0.1180 0.0220
0.120 0.200 1.300 0.200 0.400 1.250 0.080 0.0100 0.375 0.000
0.035 0.882 0.0400 6.000 0.035 0.534 0.070 1.000 0.177
1 0 1 0 1 0 6 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
36.00 0.00
3 700203 1 1 1
11.00 40.00 0.800 0.8000 36.00 2.50 7.50 -2.00 12.50 1.000
2.00 3.00 0.1200 0.3670 2.500 125.4 4.000 0.0080 0.1180 0.0220
0.120 0.200 1.300 0.200 0.400 1.250 0.080 0.0100 0.375 0.000
0.035 0.882 0.0400 6.000 0.035 0.534 0.070 1.000 0.177
1 0 1 0 1 0 6 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
36.00 0.00
4 700204 1 1 1
11.00 40.00 0.800 0.8000 36.00 2.50 7.50 -2.00 12.50 1.000
2.00 3.00 0.1200 0.3670 2.500 125.4 4.000 0.0080 0.1180 0.0220
0.120 0.200 1.300 0.200 0.400 1.250 0.080 0.0100 0.375 0.000
0.035 0.882 0.0400 6.000 0.035 0.534 0.070 1.000 0.177
1 0 1 0 1 0 6 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
36.00 0.00
59 8003 5 8 1
1 800301 0 1 1
15.80 220.00 0.800 0.8000 200.00 10.00 108.00 -18.00 180.00 1.000
3.00 6.00 0.1000 0.8000 2.500 125.4 3.700 0.0080 0.2480 0.0220
0.230 0.338 2.225 0.250 0.556 2.110 0.100 0.0100 0.380 0.000
0.035 0.882 0.0400 7.000 0.035 0.534 0.200 2.500 0.177
1 0 1 0 1 0 3 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
200.00 0.00
2 800302 0 1 1
15.80 220.00 0.800 0.8000 200.00 10.00 108.00 -18.00 180.00 1.000
3.00 6.00 0.1000 0.8000 2.500 125.4 3.700 0.0080 0.2480 0.0220
0.230 0.338 2.225 0.250 0.556 2.110 0.100 0.0100 0.380 0.000
0.035 0.882 0.0400 7.000 0.035 0.534 0.200 2.500 0.177

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      1      0      1      0      1      0      3      0
      0.00  0.00  0.00  0.00  0.00  0.00
      0.00  0.00  0.00  0.00  0.00  0.00
200.00  0.00
3 800303      0      1      1
      15.80 220.00 0.800 0.8000 200.00 10.00 108.00 -18.00 180.00 1.000
      3.00  6.00 0.1000 0.8000 2.500 125.4 3.700 0.0080 0.2480 0.0220
      0.230 0.338 2.225 0.250 0.556 2.110 0.100 0.0100 0.380 0.000
      0.035 0.882 0.0400 7.000 0.035 0.534 0.200 2.500 0.177
      1      0      1      0      1      0      3      0
      0.00  0.00  0.00  0.00  0.00  0.00
      0.00  0.00  0.00  0.00  0.00  0.00
200.00  0.00
4 800304      0      1      1
      15.80 220.00 0.800 0.8000 200.00 10.00 108.00 -18.00 180.00 1.000
      3.00  6.00 0.1000 0.8000 2.500 125.4 3.700 0.0080 0.2480 0.0220
      0.230 0.338 2.225 0.250 0.556 2.110 0.100 0.0100 0.380 0.000
      0.035 0.882 0.0400 7.000 0.035 0.534 0.200 2.500 0.177
      1      0      1      0      1      0      3      0
      0.00  0.00  0.00  0.00  0.00  0.00
      0.00  0.00  0.00  0.00  0.00  0.00
200.00  0.00
5 800305      0      1      1
      15.80 220.00 0.800 0.8000 200.00 10.00 108.00 -18.00 180.00 1.000
      3.00  6.00 0.1000 0.8000 2.500 125.4 3.700 0.0080 0.2480 0.0220
      0.230 0.338 2.225 0.250 0.556 2.110 0.100 0.0100 0.380 0.000
      0.035 0.882 0.0400 7.000 0.035 0.534 0.200 2.500 0.177
      1      0      1      0      1      0      3      0
      0.00  0.00  0.00  0.00  0.00  0.00
      0.00  0.00  0.00  0.00  0.00  0.00
200.00  0.00
60 7005 8      7      1
1 700501      0      1      1
      11.00 75.00 0.800 0.8000 60.00 5.00 26.00 -5.00 30.00 1.000
      2.00  3.00 0.1000 0.8300 2.500 125.4 2.400 0.0160 0.0850 0.0220
      0.178 0.309 1.635 0.190 0.410 1.560 0.135 0.0100 0.380 0.000
      0.035 0.882 0.0320 5.364 0.035 0.534 0.095 0.344 0.177
      1      0      1      0      1      0      6      0
      0.00  0.00  0.00  0.00  0.00  0.00
      0.00  0.00  0.00  0.00  0.00  0.00
60.00  0.00
2 700502      0      1      1
      11.00 75.00 0.800 0.8000 60.00 5.00 26.00 -5.00 30.00 1.000
      2.00  3.00 0.1000 0.8300 2.500 125.4 2.400 0.0160 0.0850 0.0220
      0.178 0.309 1.635 0.190 0.410 1.560 0.135 0.0100 0.380 0.000
      0.035 0.882 0.0320 5.364 0.035 0.534 0.095 0.344 0.177
      1      0      1      0      1      0      6      0
      0.00  0.00  0.00  0.00  0.00  0.00

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```

0.00 0.00 0.00 0.00 0.00 0.00
60.00 0.00
3 700503 0 1 1
11.00 75.00 0.800 0.8000 60.00 5.00 26.00 -5.00 30.00 1.000
2.00 3.00 0.1000 0.8300 2.500 125.4 2.400 0.0160 0.0850 0.0220
0.178 0.309 1.635 0.190 0.410 1.560 0.135 0.0100 0.380 0.000
0.035 0.882 0.0320 5.364 0.035 0.534 0.095 0.344 0.177
1 0 1 0 1 0 6 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
60.00 0.00
4 700504 0 1 1
11.00 75.00 0.800 0.8000 60.00 5.00 26.00 -5.00 30.00 1.000
2.00 3.00 0.1000 0.8300 2.500 125.4 2.400 0.0160 0.0850 0.0220
0.178 0.309 1.635 0.190 0.410 1.560 0.135 0.0100 0.380 0.000
0.035 0.882 0.0320 5.364 0.035 0.534 0.095 0.344 0.177
1 0 1 0 1 0 6 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
60.00 0.00
5 700505 0 1 1
11.00 75.00 0.800 0.8000 60.00 5.00 26.00 -5.00 30.00 1.000
2.00 3.00 0.1000 0.8300 2.500 125.4 2.400 0.0160 0.0850 0.0220
0.178 0.309 1.635 0.190 0.410 1.560 0.135 0.0100 0.380 0.000
0.035 0.882 0.0320 5.364 0.035 0.534 0.095 0.344 0.177
1 0 1 0 1 0 6 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
60.00 0.00
6 700506 0 1 1
11.00 60.00 0.800 0.8000 50.00 5.00 20.00 -4.00 25.00 1.000
2.00 3.00 0.1500 0.6000 2.500 125.4 2.700 0.0080 0.1050 0.0220
0.140 0.229 1.950 0.190 0.490 1.800 0.100 0.0100 0.380 0.000
0.035 0.882 0.0500 6.500 0.035 0.534 0.100 0.500 0.177
1 0 1 0 1 0 6 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
50.00 0.00
7 700507 0 1 1
11.00 60.00 0.800 0.8000 50.00 5.00 20.00 -4.00 25.00 1.000
2.00 3.00 0.1500 0.6000 2.500 125.4 2.700 0.0080 0.1050 0.0220
0.140 0.229 1.950 0.190 0.490 1.800 0.100 0.0100 0.380 0.000
0.035 0.882 0.0500 6.500 0.035 0.534 0.100 0.500 0.177
1 0 1 0 1 0 6 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
50.00 0.00
8 700508 0 1 1

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11.00 150.00 0.800 0.8000 140.00 5.00 30.00 -6.00 100.00 1.000
2.00 5.00 0.1500 0.6000 2.500 125.4 3.200 0.0280 0.2160 0.0220
0.120 0.204 1.520 0.190 0.472 1.368 0.080 0.0100 0.380 0.000
0.035 0.882 0.0420 11.300 0.035 0.534 0.070 0.500 0.177
1 0 1 0 1 0 6 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
140.00 0.00
61 7003 4 7 1
1 700301 0 1 1
11.00 35.00 0.800 0.8000 32.00 3.00 10.00 -3.00 15.00 1.000
2.00 3.00 0.1500 0.6000 2.500 125.4 5.025 0.0400 0.2700 0.0220
0.091 0.191 0.752 0.200 0.500 0.481 0.081 0.0100 0.375 0.000
0.035 0.882 0.0500 5.520 0.035 0.534 0.100 1.500 0.177
1 0 1 0 1 0 3 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
32.00 0.00
2 700302 0 1 1
11.00 35.00 0.800 0.8000 32.00 3.00 10.00 -3.00 15.00 1.000
2.00 3.00 0.1500 0.6000 2.500 125.4 5.025 0.0400 0.2700 0.0220
0.091 0.191 0.752 0.200 0.500 0.481 0.081 0.0100 0.375 0.000
0.035 0.882 0.0500 5.520 0.035 0.534 0.100 1.500 0.177
1 0 1 0 1 0 3 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
32.00 0.00
3 700303 0 1 1
11.00 120.00 0.800 0.8000 110.00 5.00 41.00 -6.00 70.00 1.000
2.00 5.00 0.1500 0.6000 2.500 125.4 4.880 0.0080 0.2110 0.0220
0.205 0.271 0.928 0.220 0.500 0.609 0.116 0.0100 0.375 0.000
0.035 0.882 0.0500 8.430 0.035 0.534 0.070 1.500 0.177
1 0 1 0 1 0 3 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
110.00 0.00
4 700304 0 1 1
11.00 120.00 0.800 0.8000 110.00 5.00 41.00 -6.00 70.00 1.000
2.00 5.00 0.1500 0.6000 2.500 125.4 4.880 0.0080 0.2110 0.0220
0.205 0.271 0.928 0.220 0.500 0.609 0.116 0.0100 0.375 0.000
0.035 0.882 0.0500 8.430 0.035 0.534 0.070 1.500 0.177
1 0 1 0 1 0 3 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
110.00 0.00
62 7020 6 7 1
1 702001 1 1 1
11.00 20.00 0.800 0.8000 17.00 2.00 3.00 -1.00 4.50 1.000

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    1.00    2.00 0.1500 0.6000  2.500 125.4  2.950 0.0300 0.4900 0.0220
    0.200 0.294 1.150 0.190  0.500 0.720 0.140 0.0000 0.380 0.000
    0.035 0.882 0.0500 6.690 0.035 0.534 0.100 1.500 0.177
      1      0      1      0      1      0      1      0
    0.00    0.00    0.00    0.00    0.00    0.00
    0.00    0.00    0.00    0.00    0.00    0.00
    17.00    0.00
2 702002      1      1      1
    11.00 20.00 0.800 0.8000 17.00  2.00  3.00 -1.00  4.50 1.000
      1.00    2.00 0.1500 0.6000  2.500 125.4  2.950 0.0300 0.4900 0.0220
    0.200 0.294 1.150 0.190  0.500 0.720 0.140 0.0000 0.380 0.000
    0.035 0.882 0.0500 6.690 0.035 0.534 0.100 1.500 0.177
      1      0      1      0      1      0      1      0
    0.00    0.00    0.00    0.00    0.00    0.00
    0.00    0.00    0.00    0.00    0.00    0.00
    17.00    0.00
3 702003      1      1      1
    11.00 20.00 0.800 0.8000 17.00  2.00  3.00 -1.00  4.50 1.000
      1.00    2.00 0.1500 0.6000  2.500 125.4  2.950 0.0300 0.4900 0.0220
    0.200 0.294 1.150 0.190  0.500 0.720 0.140 0.0000 0.380 0.000
    0.035 0.882 0.0500 6.690 0.035 0.534 0.100 1.500 0.177
      1      0      1      0      1      0      1      0
    0.00    0.00    0.00    0.00    0.00    0.00
    0.00    0.00    0.00    0.00    0.00    0.00
    17.00    0.00
4 702004      1      1      1
    11.00 15.00 0.800 0.8000 11.25  2.00  2.50 -1.00  4.00 1.000
      1.00    2.00 0.1500 0.6000  2.500 125.4  2.950 0.0300 0.4900 0.0220
    0.200 0.294 1.150 0.190  0.500 0.720 0.140 0.0000 0.380 0.000
    0.035 0.882 0.0500 6.690 0.035 0.534 0.100 1.000 0.177
      1      0      1      0      1      0      1      0
    0.00    0.00    0.00    0.00    0.00    0.00
    0.00    0.00    0.00    0.00    0.00    0.00
    11.25    0.00
5 702005      1      1      1
    11.00 15.00 0.800 0.8000 11.25  2.00  2.50 -1.00  4.00 1.000
      1.00    2.00 0.1500 0.6000  2.500 125.4  2.950 0.0300 0.4900 0.0220
    0.200 0.294 1.150 0.190  0.500 0.720 0.140 0.0000 0.380 0.000
    0.035 0.882 0.0500 6.690 0.035 0.534 0.100 1.000 0.177
      1      0      1      0      1      0      1      0
    0.00    0.00    0.00    0.00    0.00    0.00
    0.00    0.00    0.00    0.00    0.00    0.00
    11.25    0.00
6 702006      1      1      1
    11.00 15.00 0.800 0.8000 11.25  2.00  2.50 -1.00  4.00 1.000
      1.00    2.00 0.1500 0.6000  2.500 125.4  2.950 0.0300 0.4900 0.0220
    0.200 0.294 1.150 0.190  0.500 0.720 0.140 0.0000 0.380 0.000
    0.035 0.882 0.0500 6.690 0.035 0.534 0.100 1.000 0.177

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	1	0	1	0	1	0	1	0		
	0.00	0.00	0.00	0.00	0.00	0.00				
	0.00	0.00	0.00	0.00	0.00	0.00				
	11.25	0.00								
63	7012	3	7	1						
1	701201	1	1	1						
	11.00	35.00	0.800	0.8000	30.00	2.00	5.00	-1.00	8.50	1.000
	2.00	3.00	0.1500	0.6000	2.500	125.4	4.350	0.0400	0.2700	0.0220
	0.200	0.300	0.950	0.200	0.500	0.600	0.090	0.0100	0.380	0.000
	0.035	0.882	0.0500	4.200	0.035	0.534	0.100	1.500	0.177	
	1	0	1	0	1	0	1	0		
	0.00	0.00	0.00	0.00	0.00	0.00				
	0.00	0.00	0.00	0.00	0.00	0.00				
	30.00	0.00								
2	701202	1	1	1						
	11.00	35.00	0.800	0.8000	30.00	2.00	5.00	-1.00	8.50	1.000
	2.00	3.00	0.1500	0.6000	2.500	125.4	4.350	0.0400	0.2700	0.0220
	0.200	0.300	0.950	0.200	0.500	0.600	0.090	0.0100	0.380	0.000
	0.035	0.882	0.0500	4.200	0.035	0.534	0.100	1.500	0.177	
	1	0	1	0	1	0	1	0		
	0.00	0.00	0.00	0.00	0.00	0.00				
	0.00	0.00	0.00	0.00	0.00	0.00				
	30.00	0.00								
3	701203	1	1	1						
	11.00	35.00	0.800	0.8000	30.00	2.00	5.00	-1.00	8.50	1.000
	2.00	3.00	0.1500	0.6000	2.500	125.4	4.350	0.0400	0.2700	0.0220
	0.200	0.300	0.950	0.200	0.500	0.600	0.090	0.0100	0.380	0.000
	0.035	0.882	0.0500	4.200	0.035	0.534	0.100	1.500	0.177	
	1	0	1	0	1	0	1	0		
	0.00	0.00	0.00	0.00	0.00	0.00				
	0.00	0.00	0.00	0.00	0.00	0.00				
	30.00	0.00								
64	7001	3	7	1						
1	700101	1	1	1						
	11.00	75.00	0.800	0.8000	66.00	4.00	20.00	-4.00	34.00	1.000
	2.00	3.00	0.1000	0.8300	2.500	125.4	2.405	0.0160	0.0850	0.0220
	0.178	0.309	1.635	0.220	0.410	1.560	0.135	0.0100	0.375	0.000
	0.035	0.882	0.0320	5.364	0.035	0.534	0.095	0.344	0.177	
	1	0	1	0	1	0	1	0		
	0.00	0.00	0.00	0.00	0.00	0.00				
	0.00	0.00	0.00	0.00	0.00	0.00				
	66.00	0.00								
2	700102	1	1	1						
	11.00	75.00	0.800	0.8000	66.00	4.00	20.00	-4.00	34.00	1.000
	2.00	3.00	0.1000	0.8300	2.500	125.4	2.405	0.0160	0.0850	0.0220
	0.178	0.309	1.635	0.220	0.410	1.560	0.135	0.0100	0.375	0.000
	0.035	0.882	0.0320	5.364	0.035	0.534	0.095	0.344	0.177	
	1	0	1	0	1	0	1	0		

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0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
66.00 0.00
3 700103 1 1
11.00 75.00 0.800 0.8000 66.00 4.00 20.00 -4.00 34.00 1.000
2.00 3.00 0.1000 0.8300 2.500 125.4 2.405 0.0160 0.0850 0.0220
0.178 0.309 1.635 0.220 0.410 1.560 0.135 0.0100 0.375 0.000
0.035 0.882 0.0320 5.364 0.035 0.534 0.095 0.344 0.177
1 0 1 0 1 0 1 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
66.00 0.00
65 8023 2 8 1
1 802301 3 1 1
21.00 250.00 0.800 0.8000 220.00 10.00 75.00 -12.50 125.00 0.900
3.00 6.00 0.1000 0.8000 2.500 125.4 3.700 0.0080 0.2480 0.0220
0.229 0.338 2.225 0.250 0.556 2.110 0.100 0.0100 0.380 0.000
0.035 0.882 0.0400 7.000 0.035 0.534 0.200 2.500 0.177
1 0 1 0 1 0 2 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
235.00 0.00
2 802302 3 1 1
21.00 250.00 0.800 0.8000 220.00 10.00 75.00 -12.50 125.00 0.900
3.00 6.00 0.1000 0.8000 2.500 125.4 3.700 0.0080 0.2480 0.0220
0.229 0.338 2.225 0.250 0.556 2.110 0.100 0.0100 0.380 0.000
0.035 0.882 0.0400 7.000 0.035 0.534 0.200 2.500 0.177
1 0 1 0 1 0 2 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
235.00 0.00
66 8015 4 8 1
1 801501 0 1 1
15.80 225.00 0.800 0.8000 210.00 10.00 110.00 -20.00 180.00 1.000
3.00 6.00 0.1000 0.8000 2.500 125.4 3.700 0.0080 0.2480 0.0220
0.200 0.290 2.120 0.250 0.556 2.000 0.100 0.0100 0.380 0.000
0.035 0.882 0.0400 7.000 0.035 0.534 0.040 7.000 0.177
1 0 1 0 1 0 5 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
210.00 0.00
2 801502 0 1 1
15.80 225.00 0.800 0.8000 210.00 10.00 110.00 -20.00 180.00 1.000
3.00 6.00 0.1000 0.8000 2.500 125.4 3.700 0.0080 0.2480 0.0220
0.200 0.290 2.120 0.250 0.556 2.000 0.100 0.0100 0.380 0.000
0.035 0.882 0.0400 7.000 0.035 0.534 0.040 7.000 0.177
1 0 1 0 1 0 5 0
0.00 0.00 0.00 0.00 0.00 0.00

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    0.00  0.00  0.00  0.00  0.00  0.00
210.00  0.00
3 801503    0    1    1
    15.80 225.00  0.800 0.8000 210.00  10.00 110.00 -20.00 180.00  1.000
    3.00   6.00 0.1000 0.8000  2.500 125.4  3.700  0.0080 0.2480 0.0220
    0.200 0.290 2.120  0.250  0.556  2.000  0.100  0.0100  0.380  0.000
    0.035 0.882 0.0400  7.000  0.035  0.534  0.040   7.000  0.177
    1      0      1      0      1      0      5      0
    0.00  0.00  0.00  0.00  0.00  0.00
    0.00  0.00  0.00  0.00  0.00  0.00
210.00  0.00
4 801504    0    1    1
    15.80 225.00  0.800 0.8000 210.00  10.00 110.00 -20.00 180.00  1.000
    3.00   6.00 0.1000 0.8000  2.500 125.4  3.700  0.0080 0.2480 0.0220
    0.200 0.290 2.120  0.250  0.556  2.000  0.100  0.0100  0.380  0.000
    0.035 0.882 0.0400  7.000  0.035  0.534  0.040   7.000  0.177
    1      0      1      0      1      0      5      0
    0.00  0.00  0.00  0.00  0.00  0.00
    0.00  0.00  0.00  0.00  0.00  0.00
210.00  0.00
67 7008 3    7    1
1 700801    1    1    1
    11.00 40.00  0.800 0.8000  33.00   2.00   6.00  -5.00  10.00  1.000
    2.00   3.00 0.1200 0.3700  2.500 125.4  4.000  0.0080 0.1180 0.0220
    0.120 0.200 1.300  0.200  0.400  1.250  0.080  0.0100  0.380  0.000
    0.035 0.882 0.0400  6.000  0.035  0.534  0.070   1.000  0.177
    1      0      1      0      1      0      1      0
    0.00  0.00  0.00  0.00  0.00  0.00
    0.00  0.00  0.00  0.00  0.00  0.00
    33.00  0.00
2 700802    1    1    1
    11.00 40.00  0.800 0.8000  33.00   2.00   6.00  -5.00  10.00  1.000
    2.00   3.00 0.1200 0.3700  2.500 125.4  4.000  0.0080 0.1180 0.0220
    0.120 0.200 1.300  0.200  0.400  1.250  0.080  0.0100  0.380  0.000
    0.035 0.882 0.0400  6.000  0.035  0.534  0.070   1.000  0.177
    1      0      1      0      1      0      1      0
    0.00  0.00  0.00  0.00  0.00  0.00
    0.00  0.00  0.00  0.00  0.00  0.00
    33.00  0.00
3 700803    1    1    1
    11.00 40.00  0.800 0.8000  33.00   2.00   6.00  -5.00  10.00  1.000
    2.00   3.00 0.1200 0.3700  2.500 125.4  4.000  0.0080 0.1180 0.0220
    0.120 0.200 1.300  0.200  0.400  1.250  0.080  0.0100  0.380  0.000
    0.035 0.882 0.0400  6.000  0.035  0.534  0.070   1.000  0.177
    1      0      1      0      1      0      1      0
    0.00  0.00  0.00  0.00  0.00  0.00
    0.00  0.00  0.00  0.00  0.00  0.00
    33.00  0.00

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68  7006  5      7      1
    1 700601      0      1      1
      10.50 60.00 0.800 0.8000 50.00 3.00 19.00 -3.00 32.00 1.000
        2.00 3.00 0.1500 0.6000 2.500 125.4 2.700 0.0080 0.1050 0.0220
      0.140 0.229 1.950 0.220 0.490 1.800 0.100 0.0100 0.380 0.000
      0.035 0.882 0.0500 6.500 0.035 0.534 0.100 0.500 0.177
        1      0      1      0      1      0      3      0
      0.00 0.00 0.00 0.00 0.00 0.00
      0.00 0.00 0.00 0.00 0.00 0.00
      50.00 0.00
    2 700602      0      1      1
      10.50 60.00 0.800 0.8000 50.00 3.00 19.00 -3.00 32.00 1.000
        2.00 3.00 0.1500 0.6000 2.500 125.4 2.700 0.0080 0.1050 0.0220
      0.140 0.229 1.950 0.220 0.490 1.800 0.100 0.0100 0.380 0.000
      0.035 0.882 0.0500 6.500 0.035 0.534 0.100 0.500 0.177
        1      0      1      0      1      0      3      0
      0.00 0.00 0.00 0.00 0.00 0.00
      0.00 0.00 0.00 0.00 0.00 0.00
      50.00 0.00
    3 700603      0      1      1
      10.50 60.00 0.800 0.8000 50.00 3.00 19.00 -3.00 32.00 1.000
        2.00 3.00 0.1500 0.6000 2.500 125.4 2.700 0.0080 0.1050 0.0220
      0.140 0.229 1.950 0.220 0.490 1.800 0.100 0.0100 0.380 0.000
      0.035 0.882 0.0500 6.500 0.035 0.534 0.100 0.500 0.177
        1      0      1      0      1      0      3      0
      0.00 0.00 0.00 0.00 0.00 0.00
      0.00 0.00 0.00 0.00 0.00 0.00
      50.00 0.00
    4 700604      0      1      1
      10.50 60.00 0.800 0.8000 50.00 3.00 19.00 -3.00 32.00 1.000
        2.00 3.00 0.1500 0.6000 2.500 125.4 2.700 0.0080 0.1050 0.0220
      0.140 0.229 1.950 0.220 0.490 1.800 0.100 0.0100 0.380 0.000
      0.035 0.882 0.0500 6.500 0.035 0.534 0.100 0.500 0.177
        1      0      1      0      1      0      3      0
      0.00 0.00 0.00 0.00 0.00 0.00
      0.00 0.00 0.00 0.00 0.00 0.00
      50.00 0.00
    5 700605      0      1      1
      10.50 60.00 0.800 0.8000 50.00 3.00 19.00 -3.00 32.00 1.000
        2.00 3.00 0.1500 0.6000 2.500 125.4 2.700 0.0080 0.1050 0.0220
      0.140 0.229 1.950 0.220 0.490 1.800 0.100 0.0100 0.380 0.000
      0.035 0.882 0.0500 6.500 0.035 0.534 0.100 0.500 0.177
        1      0      1      0      1      0      3      0
      0.00 0.00 0.00 0.00 0.00 0.00
      0.00 0.00 0.00 0.00 0.00 0.00
      50.00 0.00
69  7007  3      7      1
    1 700701      0      1      1

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10.50 120.00 0.800 0.8000 100.00 5.00 45.00 -8.00 75.00 1.000
2.00 3.00 0.1500 0.6000 2.500 125.4 4.880 0.0080 0.2110 0.0220
0.205 0.271 0.928 0.220 0.500 0.609 0.116 0.0100 0.380 0.000
0.035 0.882 0.0500 8.430 0.035 0.534 0.070 1.500 0.177
1 0 1 0 1 0 3 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
100.00 0.00
2 700702 0 1 1
10.50 120.00 0.800 0.8000 100.00 5.00 45.00 -8.00 75.00 1.000
2.00 3.00 0.1500 0.6000 2.500 125.4 4.880 0.0080 0.2110 0.0220
0.205 0.271 0.928 0.220 0.500 0.609 0.116 0.0100 0.380 0.000
0.035 0.882 0.0500 8.430 0.035 0.534 0.070 1.500 0.177
1 0 1 0 1 0 3 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
100.00 0.00
3 700703 0 1 1
10.50 120.00 0.800 0.8000 100.00 5.00 45.00 -8.00 75.00 1.000
2.00 3.00 0.1500 0.6000 2.500 125.4 4.880 0.0080 0.2110 0.0220
0.205 0.271 0.928 0.220 0.500 0.609 0.116 0.0100 0.380 0.000
0.035 0.882 0.0500 8.430 0.035 0.534 0.070 1.500 0.177
1 0 1 0 1 0 3 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
100.00 0.00
70 7011 6 7 1
1 701101 1 1 1
11.00 60.00 0.800 0.8000 50.00 4.00 7.50 -5.00 12.50 1.000
2.00 3.00 0.1500 0.6000 2.500 125.4 2.700 0.0080 0.1050 0.0220
0.140 0.229 1.950 0.220 0.490 1.800 0.100 0.0100 0.380 0.000
0.035 0.882 0.0500 6.500 0.035 0.534 0.100 0.500 0.177
1 0 1 0 1 0 1 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
50.00 0.00
2 701102 1 1 1
11.00 60.00 0.800 0.8000 50.00 4.00 7.50 -5.00 12.50 1.000
2.00 3.00 0.1500 0.6000 2.500 125.4 2.700 0.0080 0.1050 0.0220
0.140 0.229 1.950 0.220 0.490 1.800 0.100 0.0100 0.380 0.000
0.035 0.882 0.0500 6.500 0.035 0.534 0.100 0.500 0.177
1 0 1 0 1 0 1 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
50.00 0.00
3 701103 1 1 1
11.00 60.00 0.800 0.8000 50.00 4.00 7.50 -5.00 12.50 1.000
2.00 3.00 0.1500 0.6000 2.500 125.4 2.700 0.0080 0.1050 0.0220

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0.140 0.229 1.950 0.220 0.490 1.800 0.100 0.0100 0.380 0.000
0.035 0.882 0.0500 6.500 0.035 0.534 0.100 0.500 0.177
1      0      1      0      1      0      1      0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
50.00 0.00
4 701104      1      1      1
11.00 60.00 0.800 0.8000 50.00 4.00 7.50 -5.00 12.50 1.000
2.00 3.00 0.1500 0.6000 2.500 125.4 2.700 0.0080 0.1050 0.0220
0.140 0.229 1.950 0.220 0.490 1.800 0.100 0.0100 0.380 0.000
0.035 0.882 0.0500 6.500 0.035 0.534 0.100 0.500 0.177
1      0      1      0      1      0      1      0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
50.00 0.00
5 701105      1      1      1
11.00 60.00 0.800 0.8000 50.00 4.00 7.50 -5.00 12.50 1.000
2.00 3.00 0.1500 0.6000 2.500 125.4 2.700 0.0080 0.1050 0.0220
0.140 0.229 1.950 0.220 0.490 1.800 0.100 0.0100 0.380 0.000
0.035 0.882 0.0500 6.500 0.035 0.534 0.100 0.500 0.177
1      0      1      0      1      0      1      0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
50.00 0.00
6 701106      1      1      1
11.00 60.00 0.800 0.8000 50.00 4.00 7.50 -5.00 12.50 1.000
2.00 3.00 0.1500 0.6000 2.500 125.4 2.700 0.0080 0.1050 0.0220
0.140 0.229 1.950 0.220 0.490 1.800 0.100 0.0100 0.380 0.000
0.035 0.882 0.0500 6.500 0.035 0.534 0.100 0.500 0.177
1      0      1      0      1      0      1      0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
50.00 0.00
71 7017 4      7      1
1 701701      0      1      1
13.80 125.00 0.800 0.8000 110.00 5.00 55.00 -9.00 92.00 1.000
3.00 5.00 0.1500 0.6000 2.500 125.4 4.880 0.0080 0.2110 0.0220
0.205 0.271 0.928 0.220 0.500 0.609 0.116 0.0100 0.380 0.000
0.035 0.882 0.0500 8.430 0.035 0.534 0.070 1.500 0.177
1      0      1      0      1      0      6      0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
110.00 0.00
2 701702      0      1      1
13.80 125.00 0.800 0.8000 110.00 5.00 55.00 -9.00 92.00 1.000
3.00 5.00 0.1500 0.6000 2.500 125.4 4.880 0.0080 0.2110 0.0220
0.205 0.271 0.928 0.220 0.500 0.609 0.116 0.0100 0.380 0.000
0.035 0.882 0.0500 8.430 0.035 0.534 0.070 1.500 0.177

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	1	0	1	0	1	0	6	0		
	0.00	0.00	0.00	0.00	0.00	0.00				
	0.00	0.00	0.00	0.00	0.00	0.00				
	110.00	0.00								
3	701703	0	1	1						
	13.80	125.00	0.800	0.8000	110.00	5.00	55.00	-9.00	92.00	1.000
	3.00	5.00	0.1500	0.6000	2.500	125.4	4.880	0.0080	0.2110	0.0220
	0.205	0.271	0.928	0.220	0.500	0.609	0.116	0.0100	0.380	0.000
	0.035	0.882	0.0500	8.430	0.035	0.534	0.070	1.500	0.177	
	1	0	1	0	1	0	6	0		
	0.00	0.00	0.00	0.00	0.00	0.00				
	0.00	0.00	0.00	0.00	0.00	0.00				
	110.00	0.00								
4	701704	0	1	1						
	13.80	125.00	0.800	0.8000	110.00	5.00	55.00	-9.00	92.00	1.000
	3.00	5.00	0.1500	0.6000	2.500	125.4	4.880	0.0080	0.2110	0.0220
	0.205	0.271	0.928	0.220	0.500	0.609	0.116	0.0100	0.380	0.000
	0.035	0.882	0.0500	8.430	0.035	0.534	0.070	1.500	0.177	
	1	0	1	0	1	0	6	0		
	0.00	0.00	0.00	0.00	0.00	0.00				
	0.00	0.00	0.00	0.00	0.00	0.00				
	110.00	0.00								
72	8019	3	8	1						
1	801901	1	1	1						
	11.00	50.00	0.800	0.8000	40.00	4.00	16.00	-3.00	27.00	1.000
	2.00	3.00	0.1500	0.6000	2.500	125.4	4.000	0.0080	0.3400	0.0220
	0.217	0.335	0.950	0.220	0.500	0.504	0.130	0.0000	0.380	0.000
	0.035	0.882	0.0500	5.600	0.035	0.534	0.100	1.500	0.177	
	1	0	1	0	1	0	1	0		
	0.00	0.00	0.00	0.00	0.00	0.00				
	0.00	0.00	0.00	0.00	0.00	0.00				
	40.00	0.00								
2	801902	1	1	1						
	11.00	50.00	0.800	0.8000	40.00	4.00	16.00	-3.00	27.00	1.000
	2.00	3.00	0.1500	0.6000	2.500	125.4	4.000	0.0080	0.3400	0.0220
	0.217	0.335	0.950	0.220	0.500	0.504	0.130	0.0000	0.380	0.000
	0.035	0.882	0.0500	5.600	0.035	0.534	0.100	1.500	0.177	
	1	0	1	0	1	0	1	0		
	0.00	0.00	0.00	0.00	0.00	0.00				
	0.00	0.00	0.00	0.00	0.00	0.00				
	40.00	0.00								
3	801903	1	1	1						
	11.00	50.00	0.800	0.8000	40.00	4.00	16.00	-3.00	27.00	1.000
	2.00	3.00	0.1500	0.6000	2.500	125.4	4.000	0.0080	0.3400	0.0220
	0.217	0.335	0.950	0.220	0.500	0.504	0.130	0.0000	0.380	0.000
	0.035	0.882	0.0500	5.600	0.035	0.534	0.100	1.500	0.177	
	1	0	1	0	1	0	1	0		
	0.00	0.00	0.00	0.00	0.00	0.00				

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0.00 0.00 0.00 0.00 0.00 0.00
40.00 0.00
73 7018 3 7 1
1 701801 0 1 1
21.00 225.00 0.800 0.8000 210.00 20.00 100.00 -20.00 160.00 1.000
5.00 10.00 0.1000 0.8000 2.500 125.4 3.730 0.0080 0.2480 0.0220
0.229 0.338 2.225 0.250 0.556 2.110 0.110 0.0100 0.380 0.000
0.035 0.882 0.0400 7.000 0.035 0.534 0.200 2.500 0.177
1 0 1 0 1 0 3 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
210.00 0.00
2 701802 0 1 1
21.00 225.00 0.800 0.8000 210.00 20.00 100.00 -20.00 160.00 1.000
5.00 10.00 0.1000 0.8000 2.500 125.4 3.730 0.0080 0.2480 0.0220
0.229 0.338 2.225 0.250 0.556 2.110 0.110 0.0100 0.380 0.000
0.035 0.882 0.0400 7.000 0.035 0.534 0.200 2.500 0.177
1 0 1 0 1 0 3 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
210.00 0.00
3 701803 0 1 1
21.00 225.00 0.800 0.8000 210.00 20.00 100.00 -20.00 160.00 1.000
5.00 10.00 0.1000 0.8000 2.500 125.4 3.730 0.0080 0.2480 0.0220
0.229 0.338 2.225 0.250 0.556 2.110 0.110 0.0100 0.380 0.000
0.035 0.882 0.0400 7.000 0.035 0.534 0.200 2.500 0.177
1 0 1 0 1 0 3 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
210.00 0.00
74 8004 2 8 1
1 800401 0 1 1
21.00 600.00 0.800 0.8000 500.00 25.00 270.00 -45.00 450.00 1.000
5.00 10.00 0.1000 0.8000 2.500 125.4 3.070 0.0260 0.2150 0.0220
0.235 0.309 2.400 0.230 0.500 2.330 0.190 0.0100 0.380 0.000
0.035 0.882 0.0250 8.300 0.035 0.534 0.230 0.720 0.177
1 0 1 0 1 0 3 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
500.00 0.00
2 800402 0 1 1
21.00 600.00 0.800 0.8000 500.00 25.00 270.00 -45.00 450.00 1.000
5.00 10.00 0.1000 0.8000 2.500 125.4 3.070 0.0260 0.2150 0.0220
0.235 0.309 2.400 0.230 0.500 2.330 0.190 0.0100 0.380 0.000
0.035 0.882 0.0250 8.300 0.035 0.534 0.230 0.720 0.177
1 0 1 0 1 0 3 0
0.00 0.00 0.00 0.00 0.00 0.00
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500.00 0.00
75 8013 2 8 1
1 801301 0 1 1
21.00 600.00 0.800 0.8000 500.00 25.00 270.00 -45.00 450.00 1.000
5.00 10.00 0.1000 0.8000 2.500 125.4 3.070 0.0260 0.2150 0.0220
0.235 0.309 2.400 0.230 0.500 2.330 0.190 0.0100 0.380 0.000
0.035 0.882 0.0250 8.300 0.035 0.534 0.230 0.720 0.177
1 0 1 0 1 0 3 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
500.00 0.00
2 801302 0 1 1
21.00 600.00 0.800 0.8000 500.00 25.00 270.00 -45.00 450.00 1.000
5.00 10.00 0.1000 0.8000 2.500 125.4 3.070 0.0260 0.2150 0.0220
0.235 0.309 2.400 0.230 0.500 2.330 0.190 0.0100 0.380 0.000
0.035 0.882 0.0250 8.300 0.035 0.534 0.230 0.720 0.177
1 0 1 0 1 0 3 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
500.00 0.00
76 5001 1 5 1
1 500101 0 1 1
13.80 250.00 0.800 0.8000 200.00 5.00 15.00 -10.00 20.00 2.200
0.20 0.25 0.1000 0.8000 2.500 125.4 3.700 0.0080 0.2480 0.0220
0.230 0.338 2.225 0.120 0.556 2.110 0.100 0.0010 0.375 0.000
0.035 0.882 0.0400 7.000 0.035 0.534 0.200 2.500 0.177
1 0 1 0 1 0 3 0
0.00 0.00 0.00 0.00 0.00 0.00
0.00 0.00 0.00 0.00 0.00 0.00
20.00 0.00

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