



Overview of eDART Network Model Functionality

**eDART Users Group (eDUG)-Transmission,
Data Management Working Group (DMWG)
July 10, 2006**

Revised 7/14/2006

The Network Model Application allows you to:

- Create new EMS Model Change Projects
- Review and revise project submission info
- Create reports
- Communicate project info to others



- Network Model Application is available to Transmission eDART Users
- Log into eDART and Select the “Network Model” Button from the eDART Main Menu



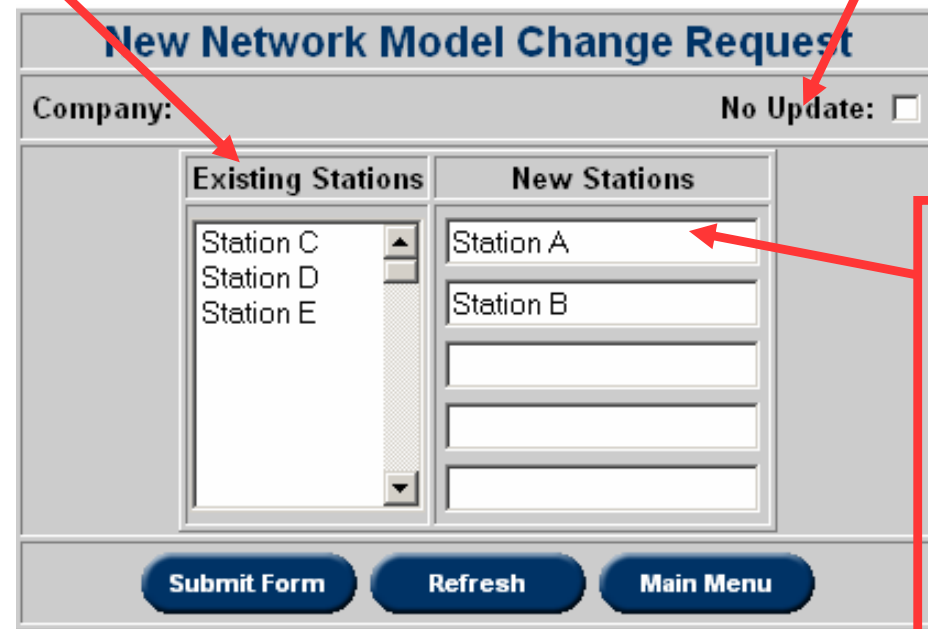
Initiates the Change Request Process

Search for an existing Change Request

Download Current One-Lines from PJM-EMS

Select Existing Stations that the new Model Change applies too. Note that multiple selections may be made by holding down the Ctrl Key while selecting stations. This will populate request with facility from that station with exception of Loads.

Indicates that nothing has changed since the last update.



Existing Stations	New Stations
Station C	Station A
Station D	Station B
Station E	

Add New Stations for this Change Request. Note that Station Names must be unique within a Change Request and Multiple Stations can be added.

Your internal company project identifier

Unique Identifier for the Change Request

Specify the type of update:

- Project (New Equipment)
- Update (Existing Equipment)
- No Updates

Denotes project data submission not yet complete

New Network Model Change Request

Company: _____

Title: Type:

Company Project ID: Status: _____

Description	PJM Comments	Stations
<input type="text"/>	<input type="text"/>	Station A Station B Station C

Target Model Build: In Progress:

500 Word Description of the Change Request

Target EMS Series for the Change Request

Listing of Stations effected by the New Model Change Request

Breakers/Disconnects			
Station	Voltage	B3 Name	Status
Station A	69 KV	DIS	Original
Station A	69 KV	TAP	Original
Station A	69 KV	TAPDIS	Original

Generators			
Station	Voltage	B3 Name	Status
Station A3	24 KV	GEN	Original
Station A3	24 KV	GEN	Original

Lines			
Station	Voltage	B3 Name	Status
Station A	69 KV	B-B	Original
Station A	69 KV	B-C	Original
Station A	69 KV	B-M	Original
Station A	115 KV	B-A	Original

Transformers (Single Winding)			
Station	Voltage	B3 Name	Status
Station A	230 KV	XF-1T	Original
Station A	230 KV	XF-2T	Original
Station A3	230 KV	XF	Original

[Submit Form](#)
[Cancel Request](#)
[Status History](#)
[Files](#)
[Email](#)
[Refresh](#)
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Equipment Type Hyper-link allows user to change all equipment of that type

Status column denotes if facility is being added (new), revised (changed), or wasn't updated (original)

Equipment Name Hyperlink allows the user to change only specific piece of equipment

Breakers/Disconnects								
Edit	Station	Voltage	Suggested B3 Name	Company Equip ID	In-Service Date	Normally Open	Device Type	Telemetered
	Station A	138 KV	3BB	Station A 3BB CB		No	Disconnect	No
<input type="radio"/>	Station A	138 KV	1BB	Station AB CB				
<input type="radio"/>	Station A	138 KV	2BB	Station AB CB				
<input checked="" type="radio"/>	Station A	138 KV	3BB	Station AB CB				
<input type="radio"/>	Station A	138 KV	4BB	Station AB CB				
<input type="radio"/>	Station A	138 KV	DUM15974	Station A M15974				
<input type="radio"/>	Station A	138 KV	DUM15976	Station A M15976				
<input type="radio"/>	Station A	138 KV	DUM15977	Station A M15977				
<input type="radio"/>	Station A	138 KV	DUM15979	Station A M15979				
<input type="radio"/>	Station A	138 KV	T1 HI DI	Station A KV T1 HI DI DI				
<input type="radio"/>	Station A	138 KV	T2 HI DI	Station A KV T2 HI DI DI				
<input type="radio"/>	Station A	138 KV	T3 HI DI	Station A KV T3 HI DI DI				
Edit	Station	Voltage	Suggested B3 Name	Company Equip ID	In-Service Date	Normally Open	Device Type	Telemetered
<input type="radio"/>	Station A	138 KV	T4 HI DI	Station A KV T4 HI DI DI				
<input type="radio"/>	Station B	69 KV	6653 DIS	Station B 6653 DIS				
<input type="radio"/>	Station B	69 KV	6653TAP	Station B 6653TAP DIS				
<input type="radio"/>		69 KV	DUMCHE					

- Fields differ for each equipment type.
- Click edit radio button to update any facility in the list.
- Click Submit or edit radio button for another facility to save row.
- Column headers hyperlink to popups of column definition.
- Click “ Add New” to add additional facilities. Rows at the top will then be blanked out.
 - Note: Once a row is selected to edit a the “Add New” button will disappear until “Submit Forms” is clicked.
- Empty at the top when initially entering the form also allows for new facility.

Request ID: 102 Company: _____

Title: _____ Type: Project (New Equipment)

Company Project ID: _____ Status: Submitted

Description	PJM Comments	Stations
_____	_____	Station A Station B Station C Station D

Target Model Build: Fall 2006 In Progress: Entry Date: 07/06/2006 13:05

Manage Stations to Model Change Request

Existing Stations	New Stations
Station A	_____
Station B	_____
Station X	_____
Station Y	_____
Station E	_____
Station F	_____

Change Request Stations	
Delete	Station
<input type="checkbox"/>	STATION A
<input type="checkbox"/>	STATION B
<input type="checkbox"/>	STATION C
<input type="checkbox"/>	STATION D

Submit Form Refresh Back

- Stations can be added and removed from request by clicking on Station.
- If station is removed, all facilities associated with request from this station will be removed.

Generators

Edit	Station	Voltage	Suggested B3 Name	Company Equip ID	In-Service Date	Min MW	Max MW	Telemetered	Rec D V
	Station A <input type="text"/>	<input type="text"/> KV	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	No <input type="text"/>	<input type="text"/>
<input type="radio"/>	Station A	20 KV	UNIT01	Station A UNIT01 GEN UNIT					
<input type="radio"/>	Station A	20 KV	UNIT02	Station A UNIT02 GEN UNIT					
<input type="radio"/>	Station A	35 KV	DIESEL	Station A DIESEL GEN UNIT					

Add New Refresh D Curve Back

Generator D Curve

Station A 20 KV UNIT01

#	MW	Min MVAR	Max MVAR
1			
2			
3			
4			
5			
6			
7			
8			

Station A 20 KV UNIT02

#	MW	Min MVAR	Max MVAR
1			
2			
3			
4			
5			
6			
7			
8			

Station A 35 KV DIESEL

#	MW	Min MVAR	Max MVAR
1			
2			
3			
4			
5			
6			
7			
8			

Submit Form

Refresh

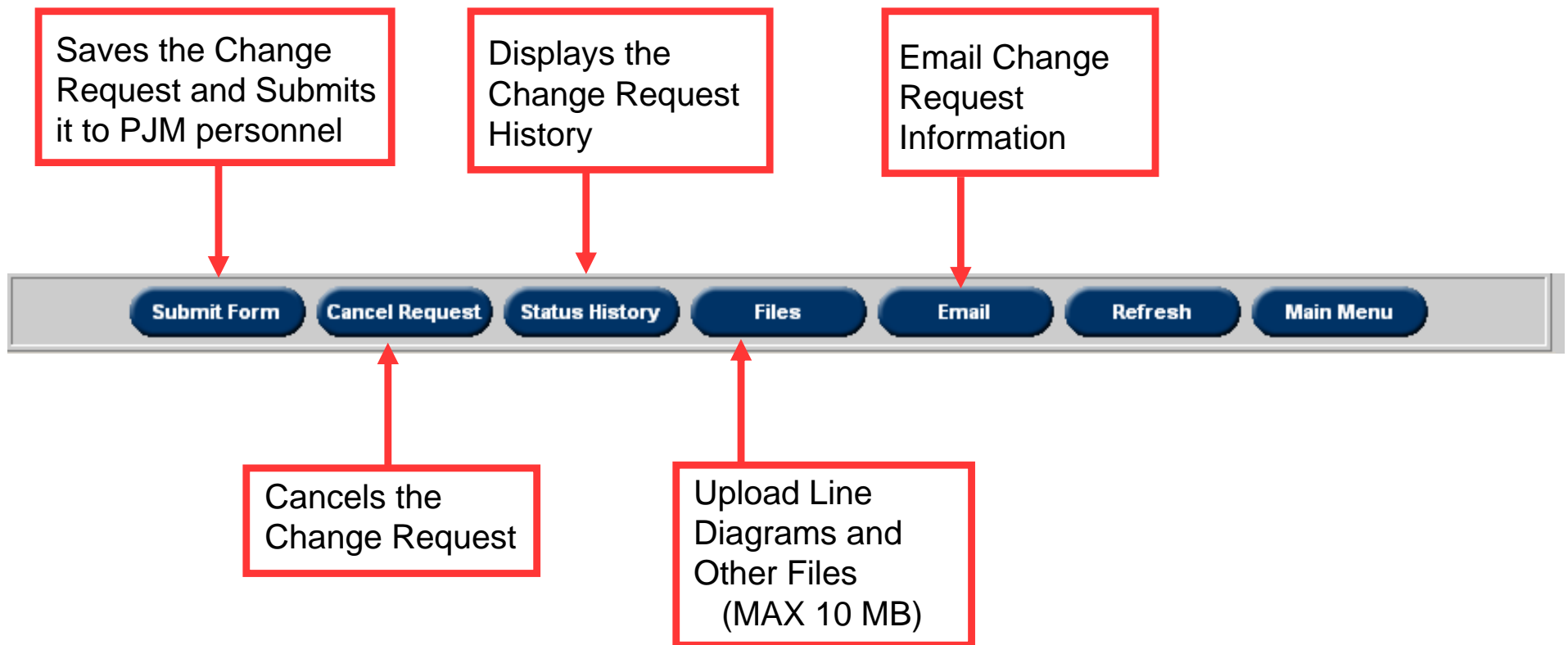
Back to Type

Back to Request

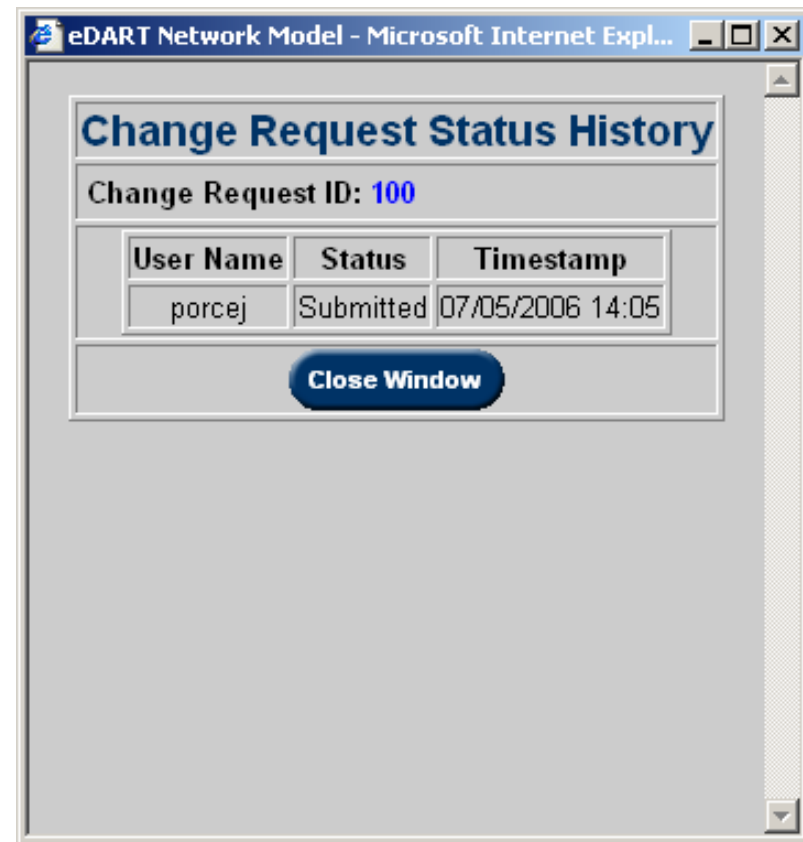
Type	Fields
Breakers/Disconnects	Normally Open Device Type Telemetered
Generators	Min MW Max MW Telemetered Regulating Desired Voltage Voltage Regulating Commitment Type Unit Type
Lines	Telemetered Company Equipment ID PJM Tariff Facility Under PJM Congestion Mgmt R (Per Unit on 100MVA base) X (Per Unit on 100MVA base) B/2(Per Unit on 100MVA base) Tie Line Other Company
Loads	Telemetered MW Load Mvar Load Non-Conforming Load Load Taken from Station # 1 Amount of Load Taken From Station # 1 Load Taken from Station # 2

Phase Shifters	Telemetered PJM Tariff Facility Under PJM Congestion Mgmt R (Per Unit on 100MVA base) X (Per Unit on 100MVA base) Describe Telemetered Location Telemetered TAP
Series Devices	Telemetered R (Per Unit on 100MVA base) X (Per Unit on 100MVA base) Describe Telemetered Location
Shunts	Telemetered Installed MVAR Regulating Regulated Bus Regulating Desired Voltage

<p>Transformers (Single Winding)</p>	<p>High Side Tap-Steps Below Neutral PJM Tariff Facility Under PJM Congestion Mgmt R (Per Unit on 100MVA base) X (Per Unit on 100MVA base) Telemetered TAP Describe Telemetered Location Low Side Voltage High Side Voltage Telemetered High Side Tap-Type High Side Tap-Neutral Voltage High Side Tap-Neutral Tap Position High Side Tap - Initial(Normal) Position High Side Tap-Steps Above Neutral High Side Tap- Step Size % Low Side Tap-Type Low Side Tap-Neutral Tap Position Low Side Tap - Neutral Voltage Low Side Tap - Initial (Normal) Popsition Low Side Tap - Steps Above Neutral Low Side Tap - Steps Below Neutral Low Side Tap- Step Size % LTC Location LTC Regulation Location Side Closest to Regulated Busbar Normal Regulation Type Regulated Busbar Station Name Regulated Busbar Voltage Level Regulated Busbar Name</p>	<p>Transformers (Three Winding)</p>	<p>PJM Tariff Facility Under PJM Congestion Mgmt Regulated Busbar Name Primary Voltage Secondary Voltage Tetriary Voltage R- Primary to Secondary (Per Unit on 100MVA base) X- Primary to Secondary (Per Unit on 100MVA base) R- Primary to Tetryary (Per Unit on 100MVA base) X - Primary to Tetryary (Per Unit on 100MVA base) R - Secondary to Tetryary (Per Unit on 100MVA base) X - Secondary to Tetryary (Per Unit on 100MVA base) Telemetered Telemetered Tap Primary Side Tap - Type Primary Side Tap - Neutral Voltage Primary Side Tap - Neutral Tap Position Primary Side Tap - Initial (Normal) Position Primary Side Tap - Steps Above Neutral Primary Side Tap - Steps Below Neutral Primary Side Tap - Step Size % Secondary Side Tap - Type Secondary Side Tap - Neutral Voltage Secondary Side Tap - Neutral Tap Position Secondary Side Tap - Initial (Normal) Position Secondary Side Tap - Steps Above Neutral Secondary Side Tap - Steps Below Neutral Secondary Side Tap - Step Size % Tetriary Side Tap - Type Tetriary Side Tap - Neutral Voltage Tetriary Side Tap - Neutral Tap Position Tetriary Side Tap - Initial (Normal) Position Tetriary Side Tap - Steps Above Neutral Tetriary Side Tap - Steps Below Neutral Tetriary Side Tap - Step Size % LTC Location LTC Regulation Location Side Closest to Regulated Busbar Normal Regulation Type Regulated Busbar Station Name Regulated Busbar Voltage Level Amount of Load Taken From Station #2</p>
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Displays a Listing of Status changes to a Change Request. Each status change is Time stamped and the User Who is responsible for said status change is noted.



Adding Files to Change Requests

Change Request Files

Change Request ID: **96** Space Remaining: 10,382,417 bytes

Delete	File Name	Download
<input type="checkbox"/>	excalibur.jpg	Download

Delete

General File Limitations:
- 10 MB of Available Space

Upload File

File to upload: **Browse...**

Submit Form **Supported File Types**

Refresh **Back**

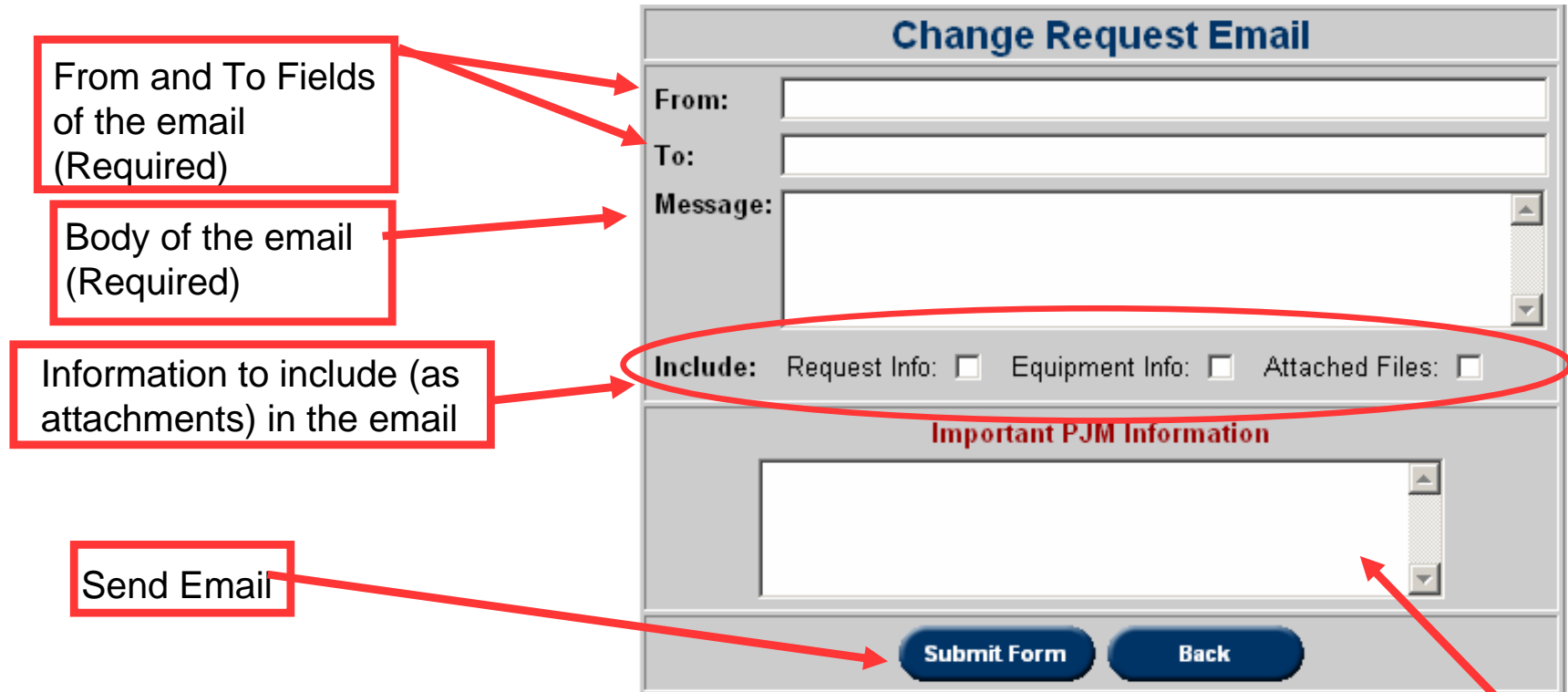
Path to file for uploading

List of files types that can be uploaded.

Supported File Types

Extention	Description
doc	Word document
jpg	Picture
pdf	Adobe PDF
svg	Single Line Diagram
xls	Spreadsheet

Close Window



Change Request Email

From:

To:

Message:

Include: Request Info: Equipment Info: Attached Files:

Important PJM Information

Submit Form **Back**

From and To Fields of the email (Required)

Body of the email (Required)

Information to include (as attachments) in the email

Send Email

PJM Legalize

Note: PJM will internally log who sends the email and from where.

Network Model Change Requests may be filtered by the following criteria:

- Title
- Included Station
- Projected EMS Build Series
- Company Project ID
- Request ID
- Change Request Status
- Actual EMS Build Series
- When the Change Request was submitted
- When the Change Request goes into service
- Telemetry Flag
- Tie Line Flag

Network Model Change Request Selection Form	
Company	Company Project ID
	<input type="text"/>
Title	Request ID
<input type="text"/>	<input type="text"/>
Station	Status
<input type="text"/>	<input type="text"/>
Target Model Build	Actual Model Build
<input type="text"/>	<input type="text"/>
Tie Lines Only	Telemetry Review Only
<input type="checkbox"/>	<input type="checkbox"/>
Submittal Date Range (mm/dd/yyyy)	In Service Date Range (mm/dd/yyyy)
From: <input type="text"/> To: <input type="text"/>	From: <input type="text"/> To: <input type="text"/>
<input type="button" value="Apply Form"/> <input type="button" value="Refresh"/> <input type="button" value="Main Menu"/>	

Network Model Main Menu		
<input type="button" value="Create New Change Request"/>	<input type="button" value="View/Revise Change Request"/>	<input type="button" value="Current One Line Diagrams"/>

- If the filters used return multiple Requests then a selection screen is displayed.
- The selection screen displays the Request ID, Company Name, Request Title, Status and the EMS Series.
- All columns are sortable based on the standard eDART sorting mechanism.
- Selecting a request brings up the Change Request such that it can be viewed and revised.

Change Requests				
Apply Filter		Go To Filter		
<input type="text" value="1"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Req. ID	Company	Title	Status	Build
93	PJM		Cancelled by PJM	Fall 2006
94	PJM		Submitted	Fall 2006
95	PJM		Submitted	Fall 2006
96	PJM		Revised	Fall 2006
97	PJM		Submitted	Winter 2007

[Main Menu](#)

Network Model Change Request

Request ID: 96 **Company:** PJM TEST
Title: **Type:** Project (New Equipment) ▾
Company Project ID: **Status:** Revised ▾

Description **PJM Comments** **Stations**

Stations

Target Model Build: Fall 2006 ▾ **Actual Model Build:** ▾ **In Progress:** **Entry Date:** 07/05/2006 12:58

[Breakers/Disconnects](#)

Station	Voltage	B3 Name	Status
Station A	45 KV	TEST	New

[Shunts](#)

Station	Voltage	B3 Name	Status
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[Generators](#)

Station	Voltage	B3 Name	Status
---------	---------	---------	--------

[Loads](#)

Station	Voltage	B3 Name	Status
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Network Model Main Menu

Create New Change Request View/Revise Change Request **Current One Line Diagrams**

- Upload
- Download
- Trans. Tickets
- Network Model**
- TERM
- Reactive Reserve
- Instantaneous Reserve Check
- Minimum Gen. Report
- PJM Status Report
- NERC Data
- Restoration Data
- Logout

Line Diagram Download Interface
Select either all stations
or a specific station based on your
company permissions

Line Diagram download may also be accessed by pushing "Download" button in menu on left side of screen and choosing "Line Diagrams" from the drop down list of available downloads.

eDART Line Diagrams XML File Download

Choose Download Type

Line Diagrams to Download

- ALL**
- Station_A.svg
- Station_B.svg
- Station_C.svg

Push here to retrieve data.

- Pan and zoom applicable to the window group being viewed, not across world maps.
- Pan using the <ALT> button & left mouse button, then move the mouse.
- Rubber band zoom by using the <CTRL> button & left mouse button, select the area.
- Zoom by right clicking & selecting: Zoom In, Zoom Out, or Original View.
- "Find" on the right click menu searches for text in the page.