

The background of the slide is a composite image. On the left, a portion of the Earth is visible, showing the Americas and surrounding oceans. Overlaid on the dark side of the Earth are numerous bright orange-yellow dots representing city lights. A thin, curved orange line arcs across the top and left side of the frame, suggesting an orbital path. The right side of the slide is a solid black field filled with small white stars.

# Delivering Power to the Planet.

**Model On Demand  
Planning Model Interfacing  
Concepts**

Global network of innovation

**SIEMENS**



# Planning Case Management at Siemens

Overview of Siemens PTI Model On Demand (MOD)

MOD Planning Model Management Functionality

Typical MOD Installation

MOD and PSS<sup>TM</sup>E Synergies



# Overview of Model On Demand



# MOD Overview

## High Level:

Given a future target date, MOD builds a planning model

### ■ Considering:

- The sequence of network planning changes through time
- External data such as transactions, planned outages, equipment commissioning and retirement, etc.
- Profile data to apply ratios to data (annual profiles) or to overwrite data (seasonal profiles)
- A multitude of ratings per device

### ■ Producing:

- Load flow, short circuit, dynamics, reliability, IDV, IPLAN, Python, etc. specifications

### ■ MOD has been designed for planners

- Manages data as projects or planning alternatives
- Manages the various data types associated with case execution
- Allows the user to pre-converge the case to validate the data
- Can save solution specification with the case

**NEW**

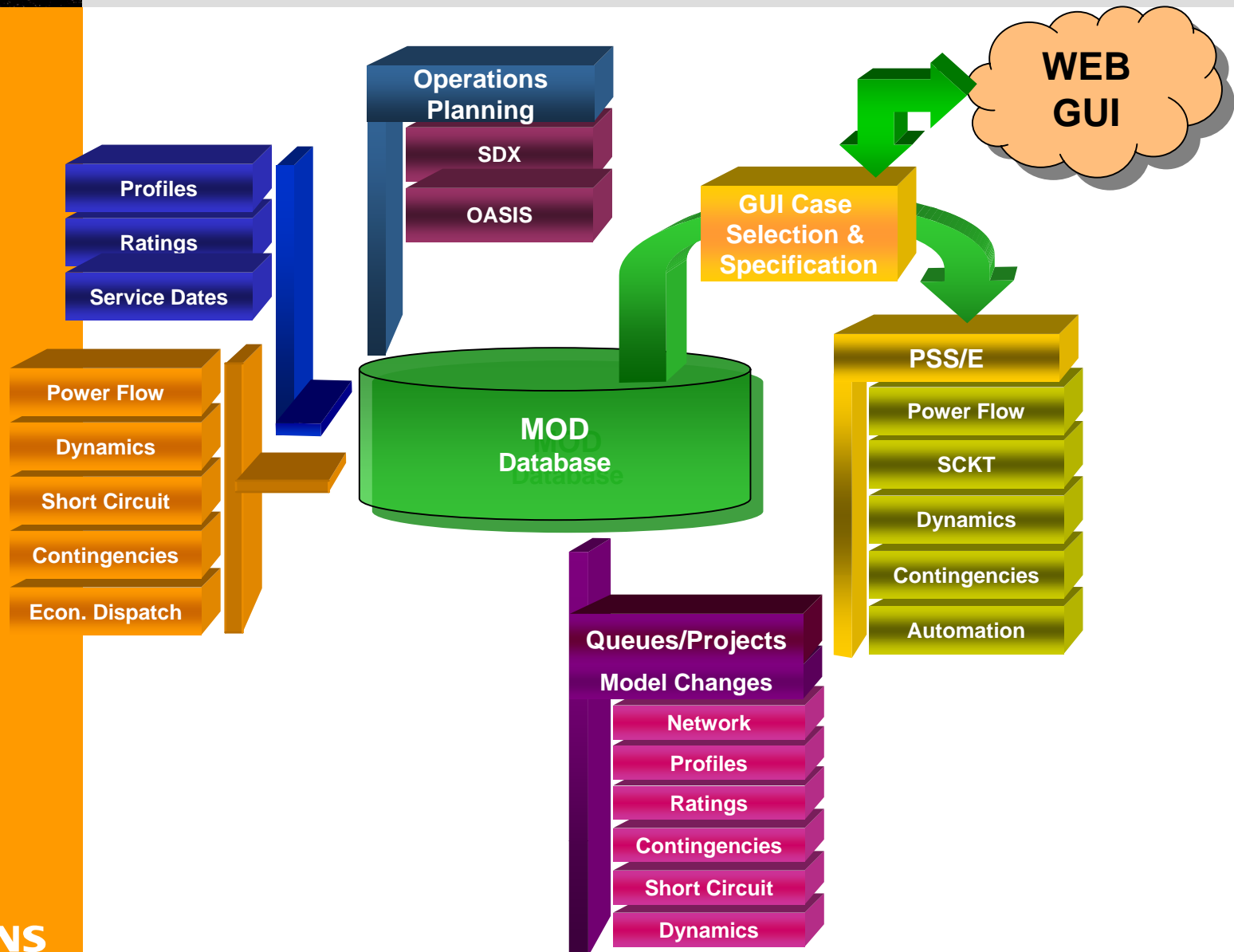
**NEW**

■ Captures change sequences in the PSS<sup>TM</sup>E environment to assemble projects

■ Will allow tracking alternatives' case dependencies



# Overview of Model On Demand (MOD)





# PSS<sup>TM</sup>E – PSS<sup>TM</sup>LMP – MOD Common Models

All are Siemens PTI software that need to assemble network models, but in slightly different arenas

## ■ PSS<sup>TM</sup>E case manager accesses:

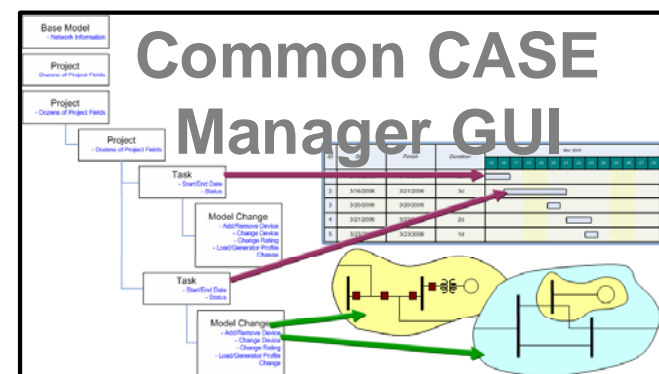
- Base Case data managed in a database
- Load, Generator, Voltage profiles
- Ratings data
- Case descriptions

## ■ PSS/LMP scenario builder accesses above plus:

- Economics data (Fuel cost, type, etc.)

MOD accesses all the above plus manages:

- Model changes as Projects
- Planned outage, transactions, RAS, SPS, etc. data
- Multi-user access through a web portal
- Audit trail





# MOD Planning Model Management Functionality





# MOD V6 User Interface

Web-based  
thin client

New tree  
control to  
navigate  
network,  
projects,  
and cases

Model On Demand - Siemens PTD

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites

Address http://localhost/ModWeb/default.aspx Go Links

**Siemens PTI**

**MOD™** v 5.3.Beta

Welcome  
Today is Sunday, 7/23/2006  
Last Login: Friday, 7/21/2006

Home Log Out

View My Account Admin

**Network Summary**

Description	Count
Areas	3
Buses	41
Loads	45
Generators	16
Non-Transformer Branches	37
Transformers	15
Two-Terminal DC Lines	1
VSC DC Lines	0
Switched Shunts	5
FACTS Control Devices	0

View Base Case Download Base Case

Object	Count
No. of Queues (Project)	10
No. of Profiles	4
No. of Ratings	1

Base Case

- Network Data
  - Bus
  - Load
  - Generator
  - Branch
  - Transformer
  - Area
  - TwoTermDCLine
  - VSC
  - SwitchedShunt
  - TransformerImpedance
- MultiTerminalDCLine
- MultiSectionLine
- Zone
- InterAreaTransfer
- Owner
- FACTS
- Profiles
- Ratings Data

Announcements:

Done Local intranet

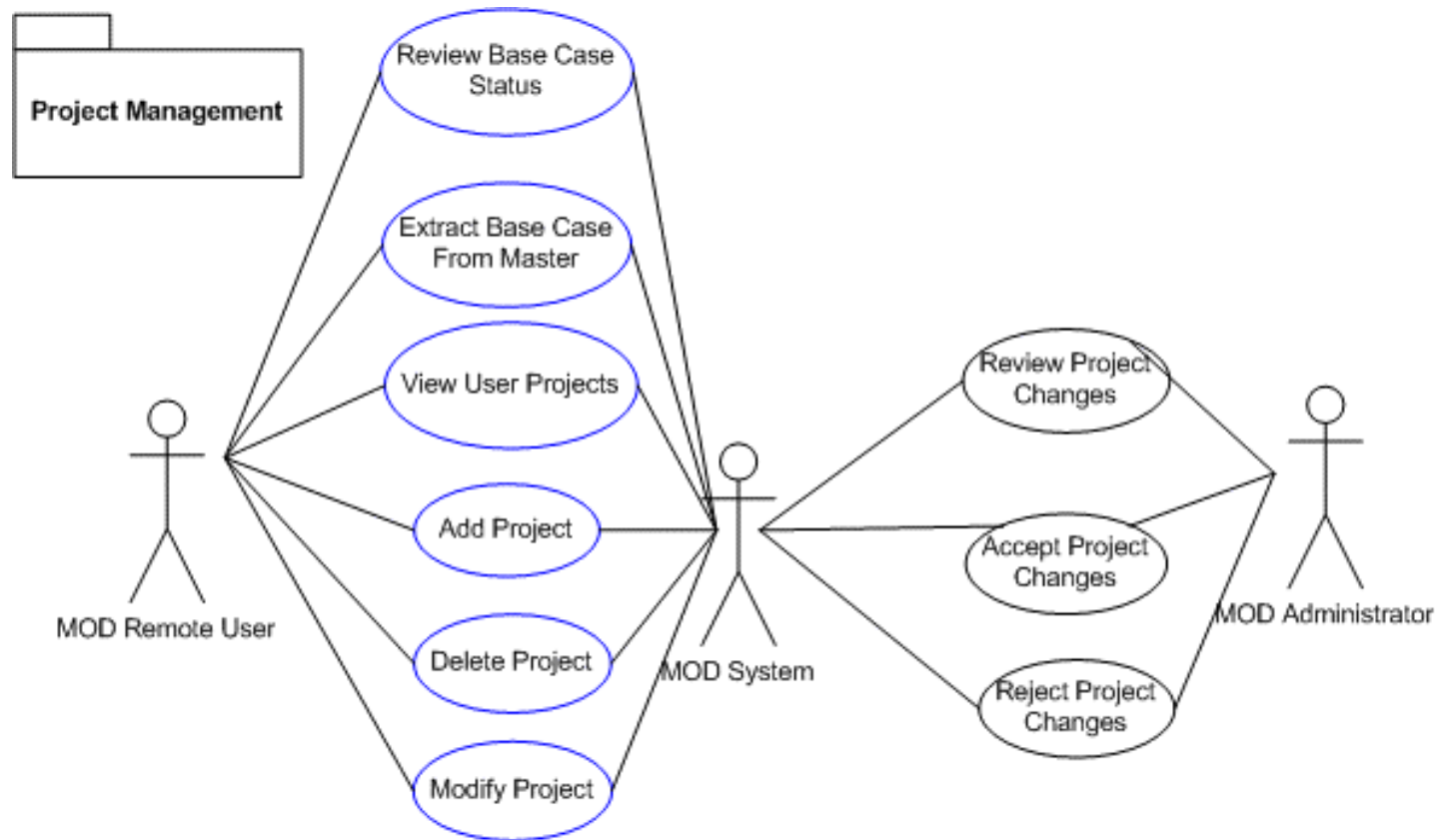
New window  
lay-out and  
stream-lined  
menus  
maximize area  
to display data

SIEMENS



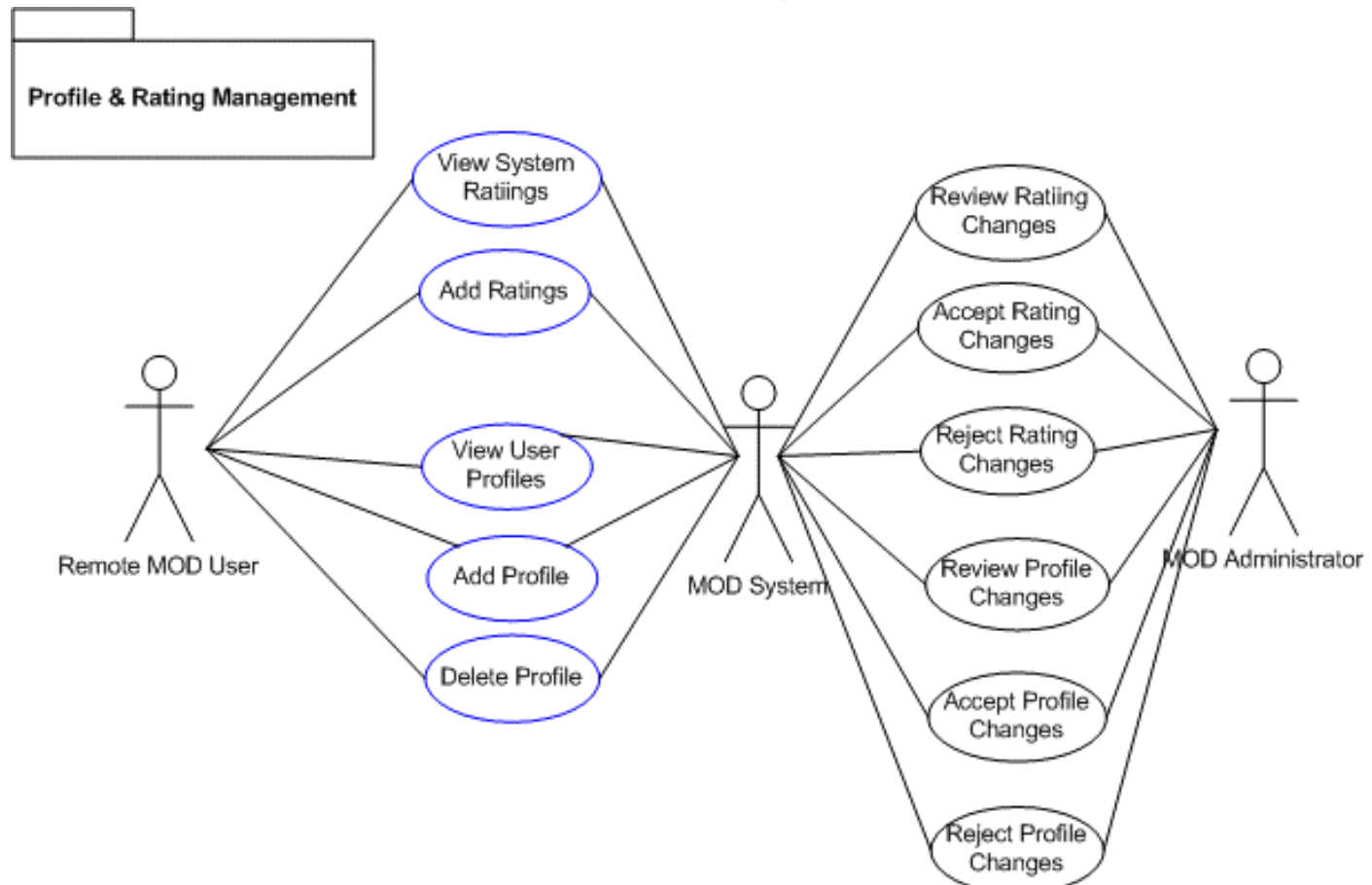
# MOD Activities

- View and download the System Base Case
- Submit modeling changes as Projects to the MOD system



# MOD Activities (cont'd)

- View ratings or upload an entirely new ratings set or change ratings via Projects
- Manage load, generation and voltage control profiles
- Establish solution parameters by project





# MOD GUI Navigation

Model On Demand - Siemens PTD

File Edit View Favorites Tools Help

Back Forward Stop Search Favorites

Address http://localhost/ModWeb/default.aspx Go Links

**Siemens PTI**

**MOD<sup>TM</sup>** v 5.3.Beta

Welcome  
Today is Sunday, 7/23/2006  
Last Login: Friday, 7/21/2006

Home Log Out

View My Account Admin

Base Case

- Network Data
  - Bus
  - Load
  - Generator**
  - Branch
  - Transformer
  - Area
  - TwoTermDCLine
  - VSC
  - SwitchedShunt
  - TransformerImped
  - MultiTerminalDCLin
  - MultiSectionLine
  - Zone
  - InterAreaTransfer
  - Owner
  - FACTS
- Profiles
- Ratings Data
- Cases

**BaseCase Detail [Generator]**

Bus (I)	Name (I)	ID	PG	QG	QT	QB	VS	IREG	MBASE	ZR	ZX	RT	XT	GTAP	STAT	RMPCT	PT	PB	O1	F1
2021	STOME-02	A	200.0	161.63	300.0	105.0	1.047	0	200.0	0.01	0.27	0.0	0.0	1.0	1	80.0	300.0	120.0	1	1.0
2021	STOME-02	B	50.0	40.41	100.0	35.0	1.047	0	300.0	0.04	0.27	0.0	0.0	1.0	1	20.0	100.0	40.0	1	1.0
2061	MEYER-02	A	272.1	141.16	200.0	0.0	0.9817	0	300.0	0.01	0.23	0.0	0.0	1.0	1	47.6	350.0	75.0	1	1.0
2061	MEYER-02	B	300.0	155.63	200.0	0.0	0.9817	0	300.0	0.01	0.24	0.0	0.0	1.0	1	52.4	350.0	75.0	1	1.0
A	325.0	255.88	350.0	75.0	0.983	0	400.0	0.01	0.25	0.0	0.0	1.0	1	50.0	350.0	75.0	1	1.0		
B	325.0	255.88	350.0	75.0	0.983	0	400.0	0.01	0.28	0.0	0.0	1.0	1	50.0	350.0	75.0	1	1.0		
A	500.0	122.55	200.0	0.0	0.997	0	350.0	0.01	0.22	0.0	0.0	1.0	1	79.1	600.0	150.0	1	1.0		
B	132.0	32.35	50.0	0.0	0.997	0	350.0	0.01	0.26	0.0	0.0	1.0	1	20.9	200.0	50.0	1	1.0		
A	450.0	232.78	300.0	0.0	1.014	0	250.0	0.01	0.25	0.0	0.0	1.0	1	88.6	600.0	200.0	1	1.0		
B	58.0	30.0	200.0	0.0	1.014	0	250.0	0.01	0.28	0.0	0.0	1.0	1	11.4	200.0	50.0	1	1.0		
A	350.0	208.22	350.0	0.0	1.049	0	400.0	0.01	0.24	0.0	0.0	1.0	1	53.8	400.0	100.0	1	1.0		
B	300.0	178.47	350.0	0.0	1.049	0	400.0	0.01	0.25	0.0	0.0	1.0	0	46.2	400.0	100.0	1	1.0		
A	560.0	287.97	400.0	0.0	1.063	0	600.0	0.01	0.22	0.0	0.0	1.0	1	100.0	600.0	100.0	1	1.0		
A	540.0	274.91	350.0	0.0	1.0281	0	600.0	0.01	0.26	0.0	0.0	1.0	1	100.0	600.0	100.0	1	1.0		
A	1197.9	423.97	500.0	0.0	1.0258	0	900.0	0.01	0.27	0.0	0.0	1.0	1	100.0	1200.0	400.0	1	1.0		
A	1000.0	589.09	1000.0	-999.0	1.03	0	1000.0	0.01	0.31	0.0	0.0	1.0	1	100.0	1200.0	400.0	1	1.0		

Navigation made easy. Simply click the element on the tree control, see the component parameters in the main window pane.

Announcements:

Local intranet



# Managing Projects

- The Projects link, displays a list of all projects in the system (if administrator) or a list filtered by UserID.

**Siemens PTI**

**MOD<sup>TM</sup>** v 5.3 Beta

Welcome  
Today is Thursday, 7/20/2006  
Last Login: Thursday, 7/20/2006

Home Log Out

View Data My Account Admin

Project Filters

Project Creation Date: On or before 07/23/2006  
Project Modified: On or before 07/23/2006  
Project Start: 07/23/2006  
Effective Date: 07/23/2006  
Review Status: Unapproved  
Project Name: Wildcard%  
Project Status: Status  
Project Type: Type  
User Owner: Owner

☒ Apply Filter

Project List

Project	Name	Review Status	Queue Status	Queue Date	Effective	Created	Modified
Fall 08 Expansion	<a href="#">AddSys</a>	Approved	Active	06-23-2006	06-23-2006	06-23-2006	06-23-2006
Fall 08 Expansion	<a href="#">BGB2T42</a>	Approved	Active	03-31-2004	04-11-2008	06-23-2006	06-27-2006
Fall 08 Expansion	<a href="#">BGB42a</a>		Inactive	06-23-2006	06-21-2008	06-23-2006	06-27-2006
Summer 06 Expansion	<a href="#">BGB42b</a>		Complete	04-12-2004	08-30-2008	06-23-2006	06-27-2006
Summer 07 Expansion	<a href="#">BGBxLn42</a>	<a href="#">Pending Approval</a>	Active	05-11-2004	09-15-2008	06-23-2006	06-23-2006

Queue Project Description:  
**AddSys**  
This Queue adds equipment of all types

Approve Reject View

This is a view designed for the administrator to quickly filter and view large numbers of projects in the system. With multi-select the administrator can quickly accept or reject project changes.



# Defining Projects

- The Project Assembly screen is used to create new projects or modify existing projects.

**Siemens PTL**

**MOD™** v 5.3 Beta

Welcome  
Today is Thursday, 7/20/2006  
Last Login: Thursday, 7/20/2006

Home Log Out

View Data My Account Admin

Project: Project #1 ID: 123 Save Submit Approve Reject User: Owner Type: Type #1 Status: Project Status

Log:  
7/23/2006 8:57pm Chuck R. Created Project  
7/23/2005 8:59pm Chuck R. Phase 123 added to Project  
7/23/2005 9:02pm Chuck R. Phase 456 added to Project

Comment:  
Enter Text  
Enter More Text

Phases: 4 Items

Name	ID	ReviewStatus	Status	Queue Date	Effective	Created	Modified
AddSys		Approved	Active	04-27-2006	04-28-2006	04-27-2006	04-27-2006
BGB42a		Pending Approval		07-04-2006	07-14-2006	07-03-2006	07-03-2006
BGBxLn42		Pending Approval	Active	05-11-2004	09-15-2008	04-27-2006	04-27-2006
DataModTest42		Pending Approval		08-05-2005	12-31-2005	07-03-2006	07-03-2006

Add... Delete Unassign View Download

Project Phase Detail

Network Data

- Bus
- Load
- Generator
- Branch
- Transformer
- Area
- TwoTermDCLine
- VSC
- SwitchedShunt
- TransformerImpedance

Bus (I)	Name (I)	Bus (J)	Name (J)	Bus Name (K)	CKT	CW	CZ	CM	MAG1	MAG2	NMETR	NAME	STATUS	Q1	F1	Q2	F2	Q3	F3	Q4	F4	R12
1	ALBURTIS	3051	ALBURTIS	0	1	2	2	1	0.0	0.0	1	1	1.0									0.001
2	BRANCHBG	4962	BRANCHBG	0	1	1	1	1	0.0	0.0	1	1	1.0									0.001
2	BRANCHBG	4962	BRANCHBG	0	2	1	1	1	0.0	0.0	1	1	1.0									0.001
2	BRANCHBG	4962	BRANCHBG	0	3	1	1	1	0.0	0.0	1	1	1.0									0.001
3	BRIGHTON	7026	BRIGH230	0	1	1	1	1	0.0	0.0	1	1	1.0									0.001
4	CNASTONE	5963	CONASTON	0	1	1	1	1	0.0	0.0	1	1	1.0									0.001
4	CNASTONE	5963	CONASTON	0	2	1	1	1	0.0	0.0	1	1	1.0									0.001
5	CONEM-GH	30	CONE G1	0	1	1	1	1	0.0	0.0	1	1	1.0									0.0
5	CONEM-GH	31	CONE G2	0	1	1	1	1	0.0	0.0	1	1	1.0									0.0
6	DEANS	4978	DEANS	0	1	1	1	1	0.0	0.0	1	1	1.0									0.001
6	DEANS	4978	DEANS	0	2	1	1	1	0.0	0.0	1	1	1.0									0.001
6	DEANS	4978	DEANS	0	3	1	1	1	0.0	0.0	1	1	1.0									0.001
7	ELBOV	2377	ELBOV	0	1	2	2	1	0.0	0.0	1	1	1.0									0.001

Clicking \*add project\* link, creates a new project in main pane. Selecting an existing project gives user access to existing project.

Projects can be organized into Phases - The center of the project definition screen lets user add/delete project phases

Bottom of screen, displays model changes related to each selected project phase

"Project" tree control browses model, profile and rating changes for the selected phase

SIEMENS





# Defining Profiles

\*add profile\* prompts for a profile and creates a new profile in main pane. Selecting an existing profile gives user access to existing profile.

- The Profile Definition Screen allows review and modification of profiles.

Siemens PTI

Base Case

Network Data

Profiles

Load Generation

\*add new Profile\*

Fall 2005

Winter2006

Device Control

Ratings Data

Cases

\*add new Case\*

Fall 2005

Winter2006

Projects

\*add new Project\*

Fall 08 Expansion

Summer 06 Expansion

\*unassigned\*

MOD<sup>TM</sup>

v 5.3.Beta

View Data My Account Admin

Welcome

Today is Thursday, 7/20/2006

Last Login: Thursday, 7/20/2006

Home Log Out

Name: Fall 2005 ID: 123 Save Submit Approve Reject User: Owner Replace Values Scale Values View

Log: 7/23/2006 8:57pm Chuck R. Created Profile  
7/23/2005 8:59pm Chuck R. Profile Submitted  
7/23/2005 9:02pm Admin Profile Approved

Comment: Enter Text  
Enter More Text

Fall 2005

Network Data

Bus

Load

Generator

Bus (I)	ID	Status	Area	Zone	PL	QL	IP	IQ	YP	YQ	Owner
11	1	1	1	1	1.0031	1.0032	1.0033	1.0034	1.0035	1.0036	1
21	1	1	1	1	1.003110031	1.003210032	1.003310033	1.003410034	1.003510035	1.003610036	1
21	2	1	1	1	1.003120062	1.003220064	1.003320066	1.003420068	1.00352007	1.003620072	1
31	1	1	2	1	1.003130093	1.003230096	1.003330099	1.003430102	1.003530105	1.003630108	1
41	1	1	2	1	1.003140125	1.003240129	1.003340133	1.003440137	1.003540141	1.003640145	1
51	1	1	2	1	1.003150156	1.003250161	1.003350166	1.003450171	1.003550176	1.003650181	1
61	1	1	3	1							1
71	1	1	3	1	1.003180251	1.003280259	1.003380267	1.003480275	1.003580283	1.003680291	1
71	2	1	3	1	1.003190283	1.003290292	1.003390301	1.00349031	1.003590319	1.003690328	1
81	1	1	2	1	1.003200315	1.003300325	1.003400335	1.003500345	1.003600355	1.003700365	1
91	1	1									
91	2	1	2	1	1.003220379	1.003320391	1.003420403	1.003520415	1.003620427	1.003720439	1
101	1	1	3	1	1.003230411	1.003330424	1.003430437	1.00353045	1.003630463	1.003730476	1
111	1	1	3	1	1.003240443	1.003340457	1.003440471	1.003540485	1.003640499	1.003740513	1
141	1	1	2	1	1.003250476	1.003350491	1.003450506	1.003550521	1.003650536	1.003750551	1
151	1	1	3	1	1.003260508	1.003360524	1.00346054	1.003560556	1.003660572	1.003760588	1
161	1	1	2	1		1.003370558	1.003470575	1.003570592	1.003670609	1.003770626	1
161	2	1	2	1	1.003280573	1.003380591	1.003480609	1.003580627	1.003680645	1.003780663	1
171	1	1	2	1	1.003290606	1.003390625	1.003490644	1.003590663	1.003690682	1.003790701	1
181	1	1	2	1	1.003300639	1.003400659	1.003500679	1.003600699	1.003700719	1.003800739	1

“Profile” tree control browses profiles by type

Bottom of screen displays profile details



# Defining Ratings

- The Ratings Definition Screen allows review and modification of component ratings in a ratings set.

\*add rating set\* prompts for a ratings set and creates or replaces the system ratings set. System Ratings sets are viewed by ratings name or by bus/equipment type/name

Bottom of screen, displays ratings details by rating name or equipment

NOTE: The system manages one rating set for all users, ratings are grouped by rating name and associated to equipment. Users can optionally change ratings using projects.

ememens PTI

Base Case

Network Data

Profiles

Ratings Data

\* add new Ratings Set \*

Master Ratings Set (by Type)

Master Ratings Set (by Bus)

Cases

\*add new Case\*

Fall 2005

Winter2006

Projects

MOD™

v 5.3 Beta

View

Data

My Account

Admin

Welcome

Today is Thursday, 7/20/2006

Last Login: Thursday, 7/20/2006

Home

Log Out

Name: Fall 2005

ID: 123

Save

Submit

Accept

Reject

☐ By Equipment

☒ By Rating Name

User: Owner

View

Log:

7/23/2006 8:57pm Chuck R. Created Rating Set

7/23/2005 8:59pm Chuck R. Rating Set Submitted

7/23/2005 9:02pm Admin Rating Set Approved

Comment:

Enter Text

Enter More Text

RATING_NAME	Bus (I)	Name (I)	Bus (J)	Name (J)	Bus Name (K)	CKT	NORM1	LTE1	STE1	LD1	NORM2	LTE2	STE2	LD2	NORM3	LTE3	STE3	LD3	EQUIP_NAME
32 - NIGHT	51	MDVIL-01	61	MEYER-01		1	777.9	793.5	809.4	825.6									ORIEN-01 - TIM-01 230KV Circuit 2
32 - DAY	51	MDVIL-01	61	MEYER-01		1	770.2	785.6	801.3	817.3									ORIEN-01 - TIM-01 230KV Circuit 2
41 - NIGHT	51	MDVIL-01	61	MEYER-01		1	762.6	777.9	793.5	809.4									ORIEN-01 - TIM-01 230KV Circuit 2
41 - DAY	51	MDVIL-01	61	MEYER-01		1	755.0	770.1	785.5	801.2									ORIEN-01 - TIM-01 230KV Circuit 2
59 - DAY	51	MDVIL-01	61	MEYER-01		1	725.5	740.0	754.8	769.9									ORIEN-01 - TIM-01 230KV Circuit 2
68 - DAY	51	MDVIL-01	61	MEYER-01		1	711.2	725.4	739.9	754.7									ORIEN-01 - TIM-01 230KV Circuit 2
77 - DAY	51	MDVIL-01	61	MEYER-01		1	697.2	711.1	725.3	739.8									ORIEN-01 - TIM-01 230KV Circuit 2
86 - DAY	51	MDVIL-01	61	MEYER-01		1	683.5	697.2	711.1	725.3									ORIEN-01 - TIM-01 230KV Circuit 2
95 - DAY	51	MDVIL-01	61	MEYER-01		1	670.0	683.4	697.1	711.0									ORIEN-01 - TIM-01 230KV Circuit 2
95 - NIGHT	51	MDVIL-01	61	MEYER-01		1	676.7	690.2	704.0	718.1									ORIEN-01 - TIM-01 230KV Circuit 2
86 - NIGHT	51	MDVIL-01	61	MEYER-01		1	690.3	704.1	718.2	732.6									ORIEN-01 - TIM-01 230KV Circuit 2
77 - NIGHT	51	MDVIL-01	61	MEYER-01		1	704.2	718.3	732.7	747.4									ORIEN-01 - TIM-01 230KV Circuit 2
68 - NIGHT	51	MDVIL-01	61	MEYER-01		1	718.3	732.7	747.4	762.3									PACIF-01 - BALTI-01 500/230KV XFMR
59 - NIGHT	51	MDVIL-01	61	MEYER-01		1	732.8	747.5	762.5	777.8									PACIF-01 - BALTI-01 500/230KV XFMR
50 - DAY	51	MDVIL-01	61	MEYER-01		1	740.1	754.9	770.0	785.4									PACIF-01 - BALTI-01 500/230KV XFMR
50 - NIGHT	51	MDVIL-01	61	MEYER-01		1	747.5	762.5	777.8	793.4									PACIF-01 - BALTI-01 500/230KV XFMR
32 - NIGHT	91	ORIENT-01	391	TIM-01		2	768.6	784.0	799.7	815.7									PACIF-01 - BALTI-01 500/230KV XFMR
32 - DAY	91	ORIENT-01	391	TIM-01		2	761.0	776.2	791.7	807.5									PACIF-01 - BALTI-01 500/230KV XFMR
41 - NIGHT	91	ORIENT-01	391	TIM-01		2	753.5	768.6	784.0	799.7									PACIF-01 - BALTI-01 500/230KV XFMR
50 - NIGHT	91	ORIENT-01	391	TIM-01		2	738.6	753.4	768.5	783.9									PACIF-01 - BALTI-01 500/230KV XFMR
50 - DAY	91	ORIENT-01	391	TIM-01		2	731.3	745.9	760.8	776.0									PACIF-01 - BALTI-01 500/230KV XFMR
59 - NIGHT	91	ORIENT-01	391	TIM-01		2	724.1	738.6	753.4	768.5									PACIF-01 - BALTI-01 500/230KV XFMR
59 - DAY	91	ORIENT-01	391	TIM-01		2	716.9	731.2	745.8	760.7									PACIF-01 - BALTI-01 500/230KV XFMR
68 - NIGHT	91	ORIENT-01	391	TIM-01		2	709.8	724.0	738.5	753.3									PACIF-01 - BALTI-01 500/230KV XFMR





# Case Create – By Project Tree

- Three variations of case create screens provide flexible user case definition - below is the Project Tree case definition

\*add case definition\* creates a new case definition. Case definitions can be reviewed/modified by selecting the named case definition

The top of the screen, controls the case monikers

The screen bottom with tabs provides for selecting projects, ratings and profiles to include in the “case”

Tree views, show “project” dependencies

SIEMENS



# Case Create – By Project Grid

- Three variations of case create screens provide flexible user case definition - below is the Project Grid case definition.

**Siemens PTI**

**MOD™** v 5.3.Beta

Welcome  
Today is Thursday, 7/20/2006  
Last Login: Thursday, 7/20/2006

Home Log Out

View Data My Account Admin

Case: Case #1 ID: 123 Save Copy Date: Jul 20<sup>th</sup>, 2006 1:30pm File: PSSEExportFile.RAW Export

PSS/E: Line #1  
Line #2

Log: 7/23/2006 8:57pm Chuck R. Case Definition Created  
7/23/2005 8:59pm Chuck R. Case Definition Modified  
7/23/2005 9:02pm Chuck R. Case Definition Used in Export

Comment: Enter Text  
Enter More Text

Run Solution v29  
Parameters: Solution Parms #1

Project Tree Project Grid Project GANNT Profiles & Ratings

Project Filters ☒ Apply Filter

On or before

Project Creation Date 07/23/2006

Project Start 07/23/2006

Project Modified 07/23/2006

Effective Date 07/23/2006

Project Name Wildcat

Project Type Type

Project Status Status

User Owner Owner

Projects Phases (Filter applied)

Available Phases: 6 Items

Project	Phase	Review Status	Queue Status	Queue Date	Effective	Created	Modified
Project 1	DataModTest42	Pending Approval		8/5/2005	12/31/2005	7/3/2006	7/3/2006 12:08:55 P1
Project 1	AddSys	Approved	Active	4/27/2006	4/28/2006	4/27/2006	4/27/2006 2:17:17 P1
Project 1	BGB42a	Pending Approval		7/4/2006	7/14/2006	7/3/2006	7/3/2006 12:18:27 P1
Project 1	BGBxLn42	Pending Approval	Active	5/11/2004	9/15/2008	4/27/2006	4/27/2006 2:18:01 P1
Project 2	EditTx42	Pending Approval	Active	4/4/2006	4/11/2006	4/27/2006	4/27/2006 2:18:27 P1
Project 2	SwSh42	Pending Approval	Active	6/15/2006	6/15/2006	6/15/2006	6/15/2006 10:49:43 J

Selected Project Phases

Available Phases: 6 Items

Project	Phase	Review Status	Queue Status	Queue Date	Effective	Created	Modified
Project 1	DataModTest42	Pending Approval		8/5/2005	12/31/2005	7/3/2006	7/3/2006 12:08:55 P1
Project 1	AddSys	Approved	Active	4/27/2006	4/28/2006	4/27/2006	4/27/2006 2:17:17 P1
Project 1	BGB42a	Pending Approval		7/4/2006	7/14/2006	7/3/2006	7/3/2006 12:18:27 P1
Project 1	BGBxLn42	Pending Approval	Active	5/11/2004	9/15/2008	4/27/2006	4/27/2006 2:18:01 P1
Project 2	EditTx42	Pending Approval	Active	4/4/2006	4/11/2006	4/27/2006	4/27/2006 2:18:27 P1
Project 2	SwSh42	Pending Approval	Active	6/15/2006	6/15/2006	6/15/2006	6/15/2006 10:49:43 J

Select All Clear

**Viewing the project grid allows the user to sort and quickly select projects for inclusion in the "case"**



# Case Create – By Project GANNT

- Three variations of case create screens provide flexible user case definition - below is the Project GANNT case definition.

**Siemens PTI**

**MOD™** v5.3 Beta

Welcome  
Today is Thursday, 7/20/2006  
Last Login: Thursday, 7/20/2006

Home Log Out

View Data My Account Admin

Case: Case #1 ID: 123 Save Copy Date: Jul 20<sup>th</sup>, 2006 1:30pm File: PSSEExportFile.RAW Export

PSS/E: Line #1  
Line #2

Log: 7/23/2006 8:57pm Chuck R. Case Definition Created  
7/23/2005 8:59pm Chuck R. Case Definition Modified  
7/23/2005 9:02pm Chuck R. Case Definition Used in Export

Comment: Enter Text  
Enter More Text

PSS/E: ☒ Run Solution v29  
Parameters: Solution Parms #1

Project Tree Project Grid Project GANNT Profiles & Ratings

Project Filters ☒ Apply Filter

On or before

Project Creation Date 07/23/2006

Project Start 07/23/2006

Project Modified 07/23/2006

Effective Date 07/23/2006

Project Name Wildcard%

Project Type Type

Project Status Status

User Owner Owner

Selected Projects Phases (Filter applied)

ID	Start	Finish	Duration	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1	3/15/2006	3/16/2006	2d														
2	3/16/2006	3/21/2006	3d														
3	3/20/2006	3/20/2006	1d														
4	3/21/2006	3/23/2006	2d														
5	3/23/2006	3/23/2006	1d														
3	3/20/2006	3/20/2006	1d														
4	3/21/2006	3/23/2006	2d														
5	3/23/2006	3/23/2006	1d														
3	3/20/2006	3/20/2006	1d														
4	3/21/2006	3/23/2006	2d														
5	3/23/2006	3/23/2006	1d														

Select All Clear

**Viewing projects by GANNT, the user can see and select projects over time.**

SIEMENS



# Case Create – Selecting Profiles and Ratings

- New case create screens gives users tremendous access to system profiles and ratings.

All the Case definitions can be saved and retrieved to quickly build cases.

**MOD™ v 5.3 Beta**

Welcome  
Today is Thursday, 7/20/2006  
Last Login: Thursday, 7/20/2006

Home Log Out

View Data My Account Admin

Case: Case #1 ID: 123 Save Copy Date: Jul 20<sup>th</sup>, 2006 1:30pm File: PSSEExportFile.RAW Export

PSS/E: Line #1 Line #2 PSS/E ☒ Run Solution v29 Parameters: Solution Parms #1

Log: 7/23/2006 8:57pm Chuck R. Case Definition Created  
7/23/2005 8:59pm Chuck R. Case Definition Modified  
7/23/2005 9:02pm Chuck R. Case Definition Used in Export

Comment: Enter Text  
Enter More Text

Project Tree Project Grid Project GANTT Profiles & Ratings

**Profile Filters** ☒ Apply Filter

Profile Creation Date: On or before 07/23/2006  
Profile Name: Wildcard%  
User Owner: Owner

**Selected Profiles**

	Seasonal	Annual
Bus	Base Case	Base Case
Load	Base Case	Base Case
Generator	Base Case	Base Case

**Ratings Filters** ☒ Apply Filter

Ratings Creation Date: On or before 07/23/2006  
Ratings Name: Wildcard%  
User Owner: Owner

**Selected Ratings**

Name	Type
Rate A	Base Case Normal
Rate B	Base Case Normal
Rate C	Base Case Normal

Profiles and ratings selections are first filtered from which the user can select which profiles/ratings to include in the case.



# Case Create – Validate in PSS<sup>TM</sup>E

- Case create screens provide the ability to solve the PSS<sup>TM</sup>E case on the web-server.

“run solution” option with optional solution parameters

**MOD<sup>TM</sup> v 5.3.Beta**

Welcome  
Today is Thursday, 7/20/2006  
Last Login: Thursday, 7/20/2006

Home Log Out

View My Account Admin

Case: Case #1 ID: 123 Save Copy Date: Jul 20<sup>th</sup>, 2006 1:30pm File: PSSEExportFile.RAW Export

PSS/E: Line #1  
Line #2

Log: 7/23/2006 8:57pm Chuck R. Case Definition Created  
7/23/2005 8:59pm Chuck R. Case Definition Modified  
7/23/2005 9:02pm Chuck R. Case Definition Used in Export

Comment: Enter Text  
Enter More Text

☒ Run Solution v29  
Parameters: Solution Parms #1

Project Tree Project Grid Project GANNT Profiles & Ratings

Project Filters ☒ Apply Filter

On or before

Project Creation Date 07/23/2006  
Project Start 07/23/2006  
Project Modified 07/23/2006  
Effective Date 07/23/2006  
Project Name Wildcard%  
Project Type Type  
Project Status Status  
User Owner Owner

Projects Phases (Filter applied)

Available Phases: 6 Items

Project	Phase	Review Status	Queue Status	Queue Date	Effective	Created	Modified
Project 1	DataModTest42	Pending Approval		8/5/2005	12/31/2005	7/3/2006	7/3/2006 12:08:55 P1
Project 1	AddSys	Approved	Active	4/27/2006	4/28/2006	4/27/2006	4/27/2006 2:17:17 P1
Project 1	BGB42a	Pending Approval		7/4/2006	7/14/2006	7/3/2006	7/3/2006 12:18:27 P1
Project 1	BGBxLn42	Pending Approval	Active	5/11/2004	9/15/2008	4/27/2006	4/27/2006 2:18:01 P1
Project 2	EditTx42	Pending Approval	Active	4/4/2006	4/11/2006	4/27/2006	4/27/2006 2:18:27 P1
Project 2	SwSh42	Pending Approval	Active	6/15/2006	6/15/2006	6/15/2006	6/15/2006 10:49:43 J

Selected Project Phases

Available Phases: 6 Items

Project	Phase	Review Status	Queue Status	Queue Date	Effective	Created	Modified
Project 1	DataModTest42	Pending Approval		8/5/2005	12/31/2005	7/3/2006	7/3/2006 12:08:55 P1
Project 1	AddSys	Approved	Active	4/27/2006	4/28/2006	4/27/2006	4/27/2006 2:17:17 P1
Project 1	BGB42a	Pending Approval		7/4/2006	7/14/2006	7/3/2006	7/3/2006 12:18:27 P1
Project 1	BGBxLn42	Pending Approval	Active	5/11/2004	9/15/2008	4/27/2006	4/27/2006 2:18:01 P1
Project 2	EditTx42	Pending Approval	Active	4/4/2006	4/11/2006	4/27/2006	4/27/2006 2:18:27 P1
Project 2	SwSh42	Pending Approval	Active	6/15/2006	6/15/2006	6/15/2006	6/15/2006 10:49:43 J

Select All Clear

**SELECTED PROJECT PHASES**

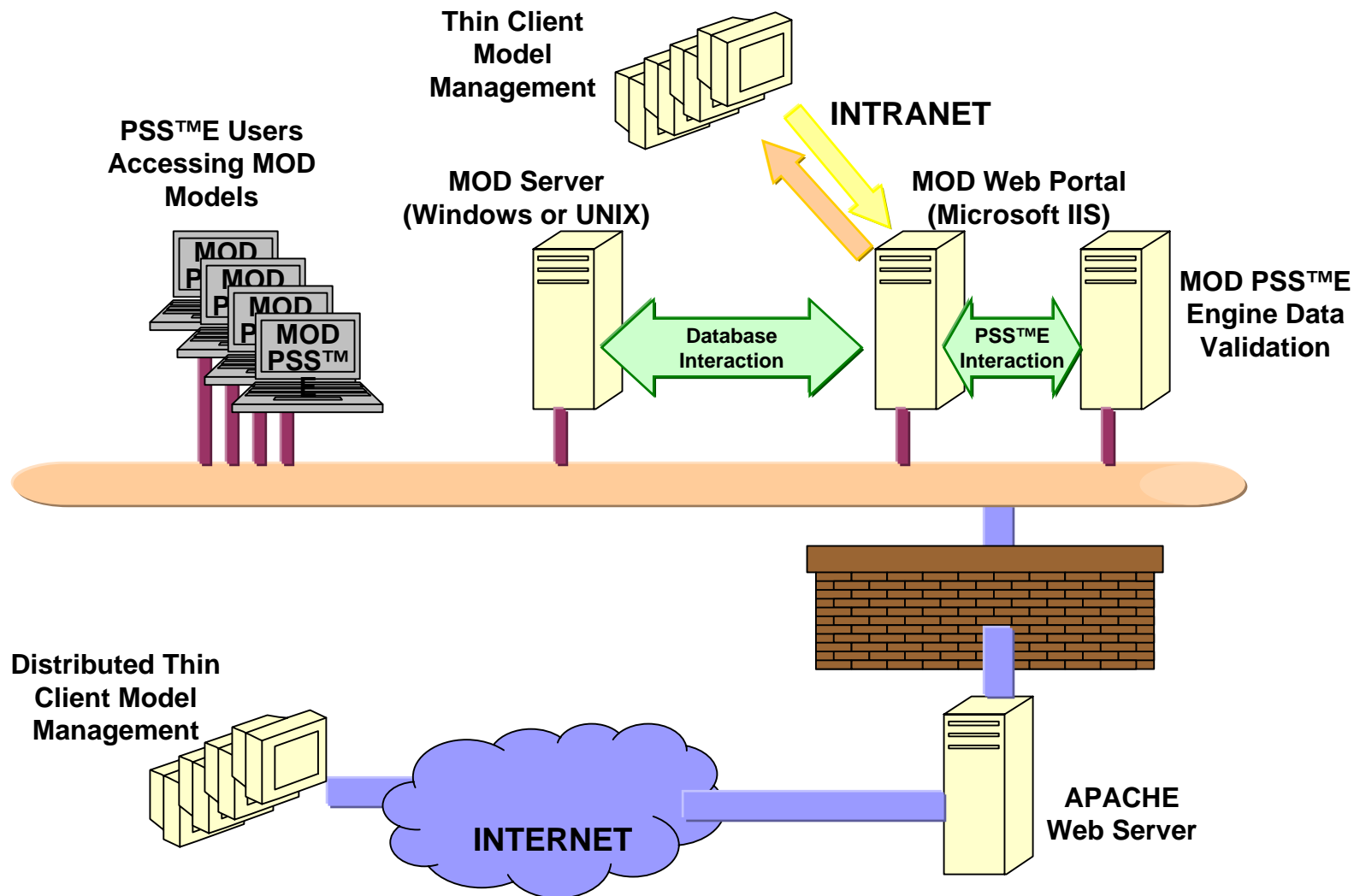


# Typical MOD Installation





# Typical MOD Installation







# MOD and PSS<sup>TM</sup>E Synergies



# Transparent MOD – PSS™E Integration

PSS/E - [savmw.sav - Network data - Buses]

File Edit View **MOD** Power Flow Fault OPF Trans Access Subsystem Misc I/O Control Tools Window Help

100%

Network

- Buses
- Branches
- Loads
- Machines
- 2 Winding Transformers
- 3 Winding Transformers
- Two Terminal DC Lines
- Voltage Source Converter D
- Multiterminal DC Lines
- Switched Shunts
- FACTS Devices
- Areas
- Owners
- Zones

Bus Number	Bus Name	Base kV	Area Number	Area Name	Zone Number	Zone Name	Owner Number	Owner Name	Code
101	NUC-A	21.6	1	FLAPCO	77	PLANT	11	GEN 1	
102	NUC-B	21.6	1	FLAPCO	77	PLANT	11	GEN 1	
151	NUCPANT	500.0	1	FLAPCO	1	FIRST	1	TRAN 1	
152	MID500	500.0	1	FLAPCO	1	FIRST	1	TRAN 1	
153	MID230	230.0	1	FLAPCO	1	FIRST	1	TRAN 1	
154	DOWNTN	230.0	1	FLAPCO	1	FIRST	1	TRAN 1	
201	HYDRO	500.0	2	LIGHTCO	2	SECOND	22	GEN 2	
202	EAST500	500.0	2	LIGHTCO	2	SECOND	2	TRAN 2	
203	EAST230	230.0	2	LIGHTCO	2	SECOND	2	TRAN 2	
204	SUB500	500.0	2	LIGHTCO	2	SECOND	2	TRAN 2	
205	SUB230	230.0	2	LIGHTCO	2	SECOND	2	TRAN 2	
206	URBGEN	18.0	2	LIGHTCO	2	SECOND	22	GEN 2	
211	HYDRO_G	20.0	2	LIGHTCO	2	SECOND	22	GEN 2	
3001	MINE	230.0	5	WORLD	5	FIFTH	55	GEN 5	
3002	E. MINE	500.0	5	WORLD	5	FIFTH	5	TRAN 5	
3003	S. MINE	230.0	5	WORLD	5	FIFTH	5	TRAN 5	
3004	WEST	500.0	5	WORLD	5	FIFTH	5	TRAN 5	
3005	WEST	230.0	5	WORLD	5	FIFTH	5	TRAN 5	
3006	UPTOWN	230.0	5	WORLD	5	FIFTH	5	TRAN 5	
3007	RURAL	230.0	5	WORLD	5	FIFTH	5	TRAN 5	
3008	CATDOG	230.0	5	WORLD	5	FIFTH	55	GEN 5	
3011	MINE_G	13.8	5	WORLD	5	FIFTH	55	GEN 5	
3018	CATDOG_G	13.8	5	WORLD	5	FIFTH	55	GEN 5	
*									

Network

Are... B... Bra... FA... Imp... Inte... Loads Ma... Mul... Mut... Ow... Pl... Swi... 2 W... Zones DC ... VS... Mul... 3 W...

[OFF] APPLY FUEL COST OBJECTIVE: YES  
 [OFF] APPLY ADJUSTABLE BRANCH REACTANCE OBJECTIVE: YES  
 [OFF] CONSTRAIN INTERFACE FLOWS: YES  
 [OFF] AUTOMATIC SCALING: YES  
 [OFF] DUAL VARIABLE CONVERGENCE CRITERIA: YES  
 [OFF] NUMBER OF BAD ITERATIONS, COARSE LIMIT: 10  
 [OFF] NUMBER OF BAD ITERATIONS, FINE LIMIT: 20

Progress

Select an object on which to get Help

Bind items Next bus - 1



# MOD Interconnection to PSS<sup>TM</sup>E

PSS/E - [savnw.sav - Network data - Buses]

File Edit View MOD Power Flow Fault OPF Trans Access Subsystem Misc I/O Control Tools Window Help

Case Manager  
Create Project  
Establish Base Case  
Solution Parameters  
Settings

100%

Network

- Buses
- Branches
- Loads
- Machines
- 2 Winding Transformers
- 3 Winding Transformers
- Two Terminal DC Lines
- Voltage Source Converter D
- Multiterminal DC Lines
- Switched Shunts
- FACTS Devices
- Areas
- Owners
- Zones

Bus Number	Bus Name	Base kV	Area Number	Area Name	Zone Number	Zone Name	Owner Number	Owner Name	Code
101	NUC-A	21.6	1	FLAPCO	77	PLANT	11	GEN 1	
102	NUC-B	21.6	1	FLAPCO	77	PLANT	11	GEN 1	
151	NUCPANT	500.0	1	FLAPCO	1	FIRST	1	TRAN 1	
152	MID500	500.0	1	FLAPCO	1	FIRST	1	TRAN 1	
153	MID230	230.0	1	FLAPCO	1	FIRST	1	TRAN 1	
154	DOWNTN	230.0	1	FLAPCO	1	FIRST	1	TRAN 1	
201	HYDRO	500.0	2	LIGHTCO	2	SECOND	22	GEN 2	
202	EAST500	500.0	2	LIGHTCO	2	SECOND	2	TRAN 2	
203	EAST230	230.0	2	LIGHTCO	2	SECOND	2	TRAN 2	
204	SUB500	500.0	2	LIGHTCO	2	SECOND	2	TRAN 2	
205	SUB230	230.0	2	LIGHTCO	2	SECOND	2	TRAN 2	
206	URBGEN	18.0	2	LIGHTCO	2	SECOND	22	GEN 2	
211	HYDRO_G	20.0	2	LIGHTCO	2	SECOND	22	GEN 2	
3001	MINE	230.0	5	WORLD	5	FIFTH	55	GEN 5	
3002	E. MINE	500.0	5	WORLD	5	FIFTH	5	TRAN 5	
3003	S. MINE	230.0	5	WORLD	5	FIFTH	5	TRAN 5	
3004	WEST	500.0	5	WORLD	5	FIFTH	5	TRAN 5	
3005	WEST	230.0	5	WORLD	5	FIFTH	5	TRAN 5	
3006	UPTOWN	230.0	5	WORLD	5	FIFTH	5	TRAN 5	
3007	RURAL	230.0	5	WORLD	5	FIFTH	5	TRAN 5	
3008	CATDOG	230.0	5	WORLD	5	FIFTH	55	GEN 5	
3011	MINE_G	13.8	5	WORLD	5	FIFTH	55	GEN 5	
3018	CATDOG_G	13.8	5	WORLD	5	FIFTH	55	GEN 5	

Are... B... Bra... FA... Imp... Inte... Loads... Ma... Mul... Mut... Ow... Pl... Swi... 2 W... Zones... DC... VS... Mul... 3 W...

[OFF] APPLY FUEL COST OBJECTIVE: YES  
[OFF] APPLY ADJUSTABLE BRANCH REACTANCE OBJECTIVE: YES  
[OFF] CONSTRAIN INTERFACE FLOWS: YES  
[OFF] AUTOMATIC SCALING: YES  
[OFF] DUAL VARIABLE CONVERGENCE CRITERIA: YES  
[OFF] NUMBER OF BAD ITERATIONS, COARSE LIMIT: 10  
[OFF] NUMBER OF BAD ITERATIONS, FINE LIMIT: 20

Progress

Select an object on which to get Help

Bind items

Next bus - 1



# Settings Define MOD Repository

PSS/E - [savnw.sav - Network data - Buses]

File Edit View Mod Power Flow Fault OPF Trans Access Subsystem Misc I/O Control Tools Window Help

Case Manager  
Create Project  
Establish Base Case  
Solution Parameters  
**Settings**

100%

Network

- Buses
- Branches
- Loads
- Machines
- 2 Winding Transformers
- 3 Winding Transformers
- Two Terminal DC Lines
- Voltage Source Converter D
- Multiterminal DC Lines
- Switched Shunts
- FACTS Devices
- Areas
- Owners
- Zones

Bus Number	Bus Name	Base kV	Area Number	Area Name	Zone Number	Zone Name	Owner Number	Owner Name	Code
101	NUC-A	21.6	1	FLAPCO	77	PLANT	11	GEN 1	
102	NUC-B	21.6	1	FLAPCO	77	PLANT	11	GEN 1	
151	NUCPANT	500.0	1	FLAPCO	1	FIRST	1	TRAN 1	
152	MID500	500.0	1	FLAPCO	1	FIRST	1	TRAN 1	
153	MID230	230.0	1	FLAPCO	1	FIRST	1	TRAN 1	
154	DOWNTN								
201	HYDRO								
202	EAST500						22	GEN 2	
203	EAST230						2	TRAN 2	
204	SUB500						2	TRAN 2	
205	SUB230						2	TRAN 2	
206	URBGEN						22	GEN 2	
211	HYDRO_G						22	GEN 2	
3001	MINE						55	GEN 5	
3002	E. MINE						5	TRAN 5	
3003	S. MINE						5	TRAN 5	
3004	WEST						5	TRAN 5	
3005	WEST						5	TRAN 5	
3006	UPTOWN						5	TRAN 5	
3007	RURAL	230.0	5	WORLD	5	FIFTH	5	TRAN 5	
3008	CATDOG	230.0	5	WORLD	5	FIFTH	55	GEN 5	
3011	MINE_G	13.8	5	WORLD	5	FIFTH	55	GEN 5	
3018	CATDOG_G	13.8	5	WORLD	5	FIFTH	55	GEN 5	

\*

Are... B... Bra... FA... Imp... Inte... Loads... Ma... Mul... Mut... Ow... Pl... Swi... 2 W... Zones... DC... VS... Mul... 3 W...

[OPF] APPLY FUEL COST OBJECTIVE: YES  
[OPF] APPLY ADJUSTABLE BRANCH REACTANCE OBJECTIVE: YES  
[OPF] CONSTRAIN INTERFACE FLOWS: YES  
[OPF] AUTOMATIC SCALING: YES  
[OPF] DUAL VARIABLE CONVERGENCE CRITERIA: YES  
[OPF] NUMBER OF BAD ITERATIONS, COARSE LIMIT: 10  
[OPF] NUMBER OF BAD ITERATIONS, FINE LIMIT: 20

Progress

Select an object on which to get Help

Bind items

Next bus - 1

**Configure Database Location**

Schema Selection

ODBC driver: Microsoft ODBC for Oracle

Schema name: SAMPLEMODEL

Password (Oracle only):

☒ Default password to Schema name

OK Cancel



# PSS™E Case Manager Accesses MOD Cases

**PSS/E - [savmw.sav - Network data - Buses]**

File Edit View Mod Power Flow Fault OPF Trans Access Subsystem Misc I/O Control Tools Window Help

Case Manager  
Create Project  
Establish Base Case  
Solution Parameters  
Settings

Bus Number	Bus Name	Base kV	Area Number	Area Name	Zone Number	Zone Name	Owner Number	Owner Name	Code
101	NUC-A	21.6	1	FLAPCO	77	PLANT	11	GEN 1	
102	NUC-B	21.6	1	FLAPCO	77	PLANT	11	GEN 1	
151	NUCPANT	500.0	1	FLAPCO	1	FIRST	1	TRAN 1	
152	MID500	500.0	1	FLAPCO	1	FIRST	1	TRAN 1	
153	MID230	230.0	1	FLAPCO	1	FIRST	1	TRAN 1	
154	DOWNTN	230.0	1	FLAPCO	1	FIRST	1	TRAN 1	

**MOD Case Create**

Case: Case #1 ID: 123 Save Copy Date: Jul 20<sup>th</sup>, 2006 1:30pm File: PSSEExportFile.RAW Export

PSS/E: Line #1  
Line #2

Log:  
7/23/2006 8:57pm Chuck R. Case Definition Created  
7/23/2005 8:59pm Chuck R. Case Definition Modified  
7/23/2005 9:02pm Chuck R. Case Definition Used in Export

Comment:  
Enter Text  
Enter More Text

Run Solution v29  
Parameters: Solution Parms #1

Project Tree Project Grid Project GANTT Profiles & Ratings

Project Filters Apply Filter

On or before

Project Creation Date 07/23/2006  
Project Start 07/23/2006  
Project Modified 07/23/2006  
Effective Date 07/23/2006  
Project Name Wildcard%  
Project Type Type  
Project Status Status  
User Owner Owner

Projects Phases (Filter applied)

Available Phases: 6 Items

Project	Phase	Review Status	Queue Status	Queue Date	Effective	Created	Modified
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Project 1	AddSys	Approved	Active	4/27/2006	4/28/2006	4/27/2006	4/27/2006 2:17:17 P1
Project 1	BGB42a	Pending Approval		7/4/2006	7/14/2006	7/3/2006	7/3/2006 12:18:27 P1
Project 1	BGB42a	Pending Approval	Active	5/11/2004	9/15/2008	4/27/2006	4/27/2006 2:18:01 P1
Project 2	EditTx42	Pending Approval	Active	4/4/2006	4/11/2006	4/27/2006	4/27/2006 2:18:27 P1
Project 2	SwSh42	Pending Approval	Active	6/15/2006	6/15/2006	6/15/2006	6/15/2006 10:49:43 J

Selected Project Phases

Available Phases: 6 Items

Project	Phase	Review Status	Queue Status	Queue Date	Effective	Created	Modified
Project 1	DataModTest42	Pending Approval		8/5/2005	12/31/2005	7/3/2006	7/3/2006 12:08:55 P1
Project 1	AddSys	Approved	Active	4/27/2006	4/28/2006	4/27/2006	4/27/2006 2:17:17 P1
Project 1	BGB42a	Pending Approval		7/4/2006	7/14/2006	7/3/2006	7/3/2006 12:18:27 P1
Project 1	BGB42a	Pending Approval	Active	5/11/2004	9/15/2008	4/27/2006	4/27/2006 2:18:01 P1
Project 2	EditTx42	Pending Approval	Active	4/4/2006	4/11/2006	4/27/2006	4/27/2006 2:18:27 P1
Project 2	SwSh42	Pending Approval	Active	6/15/2006	6/15/2006	6/15/2006	6/15/2006 10:49:43 J

**SELECTED PROJECT PHASES**

Select All Clear

Same Browser  
of MoD data  
used by MoD  
and PSS/LMP

SIEMENS





# PSS<sup>TM</sup>E Uses Case Solution Parameters

**PSS/E - [savnw.sav - Network data - Buses]**

File Edit View MoD Power Flow Fault OPF Trans Access Subsystem Misc I/O Control Tools Window Help

Case Manager  
Create Project  
Establish Base Case  
**Solution Parameters**  
Settings

100%

Network  
Buses  
Branches  
Loads

**Loadflow solutions**

Newton Gauss

**Solution method**

- ☒ Fixed slope decoupled Newton-Raphson
- ☐ Full Newton-Raphson
- ☐ Decoupled Newton-Raphson

**Solution options**

**Tap adjustment**

- ☒ Lock taps
- ☐ Stepping
- ☐ Direct

**Switched shunt adjustments**

- ☐ Lock all
- ☒ Enable all
- ☐ Enable continuous, disable discrete

**Area interchange control**

- ☒ Disabled
- ☐ Tie lines only
- ☐ Tie lines and loads

☐ Flat start

☐ Non-divergent solution

☐ Adjust phase shift

☒ Adjust DC taps

**VAR limits**

- ☒ Apply automatically
- ☐ Apply immediately
- ☐ Ignore
- ☐ Apply at 0 Iterations

☐ Show this window when using the Solve toolbar button

Solve Defaults Close

**MoD Solution Parameters for PSS/E**

Available PSS/E Solution Parameters

- Solution Parameters #1 (Fixed Slope Newton-Raphson)
- Solution Parameters #2 (Fixed Slope Newton-Raphson)
- Solution Parameters #3 (Full Newton-Raphson)
- Solution Parameters #4 (Gauss-Seidel)

Open Delete

**New PSS/E Solution Parameters**

Solution Parameters #5

Fixed Slope Newton-Raphson

Add

Add will read current settings from PSS/E Memory and upload into MoD

Name	Base kV	Area Number	Area Name	Zone Number	Zone Name	Owner Number	Owner Name	Code
NUC-A	21.6	1	FLAPCO	77	PLANT	11	GEN 1	
02 NUC-B	21.6	1	FLAPCO	77	PLANT	11	GEN 1	
151 NUCPANT	21.6	1	FLAPCO	1	FIRST	1	TRAN 1	
152 MID500						1	TRAN 1	
153 MID230						1	TRAN 1	
154 DOWNTN						1	TRAN 1	
201 HYDRO						22	GEN 2	
202 EAST500						2	TRAN 2	
203 EAST230						2	TRAN 2	
204 SUB500						2	TRAN 2	
205 SUB230						2	TRAN 2	
206 URBGEN						22	GEN 2	
211 HYDRO_G						22	GEN 2	
3001 MINE						55	GEN 5	
3002 E. MINE						5	TRAN 5	
3003 S. MINE						5	TRAN 5	
3004 WEST						5	TRAN 5	
3005 WEST						5	TRAN 5	
3006 UPTOWN						5	TRAN 5	
3007 RURAL						5	TRAN 5	
3008 CATDOG						55	GEN 5	
3011 MINE_G						55	GEN 5	
3018 CATDOG_G						55	GEN 5	

B... Bra... FA... Imp... Inte... Loads Ma... Mul... Mut... Ow... Pl... Swi... 2 W... Zones DC... VS... Mul... 3 W...

ACTIVE: YES  
CH REACTANCE OBJECTIVE: YES  
LOADS: YES  
CRITERIA: YES  
ONS, COARSE LIMIT: 10  
FINE LIMIT: 20

Progress

Select an object on which to get Help

Bind items Next bus - 1



# Upload New Base Case to MOD

PSS/E - [savnw.sav - Network data - Buses]

File Edit View MoD Power Flow Fault OPF Trans Access Subsystem Misc I/O Control Tools Window Help

Case Manager  
Create Project  
**Establish Base Case**  
Solution Parameters  
Settings

100%

Network  
+ Buses  
+ Branches  
+ Loads  
+ Machines  
+ 2 Winding Transformers  
+ 3 Winding Transformers  
+ Two Terminal DC Lines  
+ Voltage Source Converter D  
+ Multiterminal DC Lines  
+ Switched Shunts  
+ FACTS Devices  
+ Areas  
+ Owners  
+ Zones

Bus Number	Bus Name	Base kV	Area Number	Area Name	Zone Number	Zone Name	Owner Number	Owner Name	Code
101	NUC-A	21.6	1	FLAPCO	77	PLANT	11	GEN 1	
102	NUC-B	21.6	1	FLAPCO	77	PLANT	11	GEN 1	
151	NUCPANT	500.0	1	FLAPCO	1	FIRST	1	TRAN 1	
152	MID500	500.0	1	FLAPCO	1	FIRST	1	TRAN 1	
153	MID230	230.0	1	FLAPCO	1	FIRST	1	TRAN 1	
154	DOWNTN	230.0	1	FLAPCO	1	FIRST	1	TRAN 1	
201	HYDRO					OND	22	GEN 2	
202	EAST500					OND	2	TRAN 2	
203	EAST230					OND	2	TRAN 2	
204	SUB500					OND	2	TRAN 2	
205	SUB230					OND	2	TRAN 2	
206	URBGEN					OND	22	GEN 2	
211	HYDRO_G					OND	22	GEN 2	
3001	MINE					H	55	GEN 5	
3002	E. MINE					H	5	TRAN 5	
3003	S. MINE					H	5	TRAN 5	
3004	WEST					H	5	TRAN 5	
3005	WEST	230.0	5	WORLD	5	FIFTH	5	TRAN 5	
3006	UPTOWN	230.0	5	WORLD	5	FIFTH	5	TRAN 5	
3007	RURAL	230.0	5	WORLD	5	FIFTH	5	TRAN 5	
3008	CATDOG	230.0	5	WORLD	5	FIFTH	55	GEN 5	
3011	MINE_G	13.8	5	WORLD	5	FIFTH	55	GEN 5	
3018	CATDOG_G	13.8	5	WORLD	5	FIFTH	55	GEN 5	
*									

**Warning**  
Are you sure you want to replace Base Case in MoD with current PSS/E case?

Yes No

Network  
Are... B... Bra... FA... Imp... Inte... Loads Ma... Mul... Mut... Ow... Pl... Swi... 2 W... Zones DC... VS... Mul... 3 W...

[OFF] APPLY FUEL COST OBJECTIVE: YES  
[OFF] APPLY ADJUSTABLE BRANCH REACTANCE OBJECTIVE: YES  
[OFF] CONSTRAIN INTERFACE FLOWS: YES  
[OFF] AUTOMATIC SCALING: YES  
[OFF] DUAL VARIABLE CONVERGENCE CRITERIA: YES  
[OFF] NUMBER OF BAD ITERATIONS, COARSE LIMIT: 10  
[OFF] NUMBER OF BAD ITERATIONS, FINE LIMIT: 20

Progress

Select an object on which to get Help Bind items Next bus - 1





# PSS<sup>TM</sup>E Invokes MOD Case Builder Helper

**PSS/E - [savnw.sav - Network data - Buses]**

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102							11	GEN 1	
151							1	TRAN 1	
152							1	TRAN 1	
153							1	TRAN 1	
154							1	TRAN 1	
201							22	GEN 2	
202							2	TRAN 2	
203							2	TRAN 2	
204							2	TRAN 2	
205							2	TRAN 2	
206							22	GEN 2	
211							22	GEN 2	
3001							55	GEN 5	
3002							5	TRAN 5	
3003							5	TRAN 5	
3004							5	TRAN 5	
3005							5	TRAN 5	
3006							5	TRAN 5	
3007							5	TRAN 5	
3008							55	GEN 5	
3011							55	GEN 5	
3018							55	GEN 5	

MoD Project

**New MoD Project tool will assist PSS/E User in Comparing PSS/E Cases to generate Difference Models.**

**The tool will also capture Project / Phase Data like Start Date, End Date, Owner, Project Status, etc.**

Start Date	End Date	March	April	May	June	July	August
3/10/1	3/26						
4/6/4	4/24						
4/6/4	4/16						
4/6/4	4/12						
4/10	4/28						
4/10	4/27						
4/10	4/27						
7/20	8/16						
8/10	8/16						
8/24	8/24						

LEGEND  
Planned duration  
Actual duration  
Planned milestone  
Actual milestone  
Planned  
Actual

[OFF] APPLY FUEL COST OBJECTIVE: YES  
[OFF] APPLY ADJUSTABLE BRANCH REACTANCE: YES  
[OFF] CONSTRAIN INTERFACE FLOWS: YES  
[OFF] AUTOMATIC SCALING: YES  
[OFF] DUAL VARIABLE CONVERGENCE CRITERIA: YES  
[OFF] NUMBER OF BAD ITERATIONS, COARSE LIMIT: 10  
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Progress

Select an object on which to get Help

Bind items Next bus - 1



# Summary

- MOD excels in managing future planning models to the furthest horizon of investigation
- MOD manages more than just a network model
  - Network evolution through future years including dependencies
  - Contingencies, outages, ratings
  - In/Out of service dates
  - Dynamics, short circuit, reliability, IDV, IPLAN, Python, etc. specifications
- MOD is designed to minimize case management errors
- MOD is designed to be largely user-configurable to conform to user semantics
- MOD provides benefit regardless of planning package used, but excels when integrated with PSS<sup>TM</sup>E
- Future PSS<sup>TM</sup>E releases will leverage MOD capabilities to provide an open, but seamless, planning environment