Infrastructure Workshop

The Leader in Energy Market Simulation Systems

Providing energy companies, consultants, and regulators advanced tools to support:

- **Investment and M&A Strategy**
- **Environmental and Sustainability Goals**
- **Credible Risk Analysis**
- **Trading Strategy**
- **Policy Development and Assessment**
- **Energy Security**

© 2025 RBAC Inc. All Rights Reserved.

Infrastructure Workshop

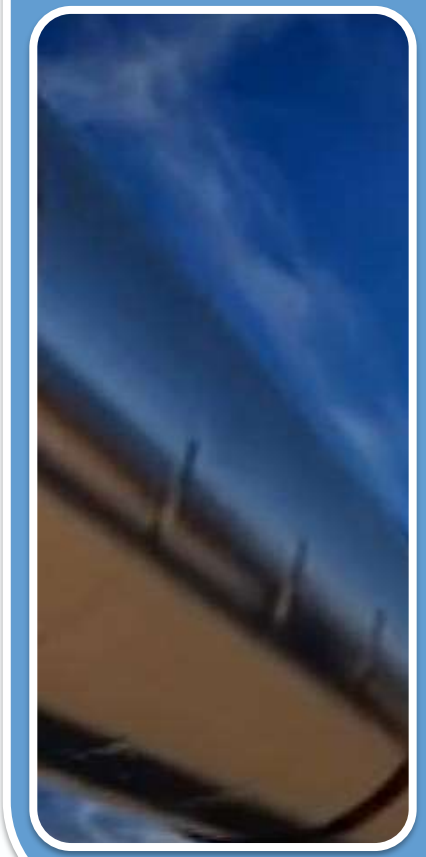
David Brooks
Senior Analyst
David.brooks@rbac.com

© 2025 RBAC Inc. All Rights Reserved.

GPCM Infrastructure Workshop

Adding a Pipeline – Mustang Express Example

Adding a Pipeline



Data Needed to add a Pipeline

- Pipeline Capacity (MMcf/d)
- Pipeline In-Service Date
- Fuel Rate
- Receipt Connections & Capacity
  - Supply Links
  - Interconnect Links
  - Storage Links
- Delivery Connections & Capacity
  - Demand Links
  - Interconnect Links
  - Storage Links

© 2025 RBAC Inc. All Rights Reserved.

Decipher Press Releases & Open Seasons

Mustang Express Pipeline

October 9, 2025

New Gulf Coast Pipeline will connect major natural gas hubs in Texas to LNG demand corridor

Provides Opportunity forNatural gas pipeline will consist of two pipeline segments each with a capacity of 2.5 billion cubic feet per day Marketing and Trading of Additional Product

The Mainline pipeline will provide capacity from Katy to Port Arthur, Texas; the Cougar pipeline will provide transportation from Tres Palacios to Katy Hub

HOUSTON–(business wire)–ARM Energy Holdings, LLC ("ARM"), a leading infrastructure and energy marketing services firm, today announced a final investment decision (FID) on its 236 mile, 42-inch Mustang Express Pipeline. The $2.3 billion project benefits from an anchor shipper commitment from Sempra Infrastructure to provide natural gas for its Port Arthur LNG Phase 2 project, which recently achieved FID. Mustang Express Pipeline will be constructed and operated by ARM Energy, along with its financial partners, Pacific Investment Management Company ("PIMCO") and associated co-investors.

The pipelines will have a total capacity of 2.5 billion cubic feet per day (bcf/d) and are expected to be completed in late 2028 or early 2029. The Mustang Express Pipeline will include the following primary segments:

Cougar Lateral: 55 miles from the Tres Palacios Storage to the Katy Hub in Katy, Texas
Mustang Mainline: 178 miles from the Katy Hub to Port Arthur, Texas
Golden Triangle / Spindletop Storage Lateral: Three miles around Port Arthur, Texas

The Mustang Express Pipeline has also secured all of the required steel and compression necessary for the project. Jindal Tubular USA will provide the mill capacity and Solar Turbines Inc. will provide the turbines for the three planned compressor stations. The gas-driven compressor stations will have a total capacity of 300,000 horsepower.

Capacity: 2.5 bcf/d
In-service: 2028/2029

3 Zones (Cougar Lat., Mustang ML, Golden Triangle/Spindletop Lat.
3 Storage Links (Tres Palacios, Golden Triangle, Spindletop
2 I/C (Katy Hub, Port Arthur LNG)

© 2025 RBAC Inc. All Rights Reserved.

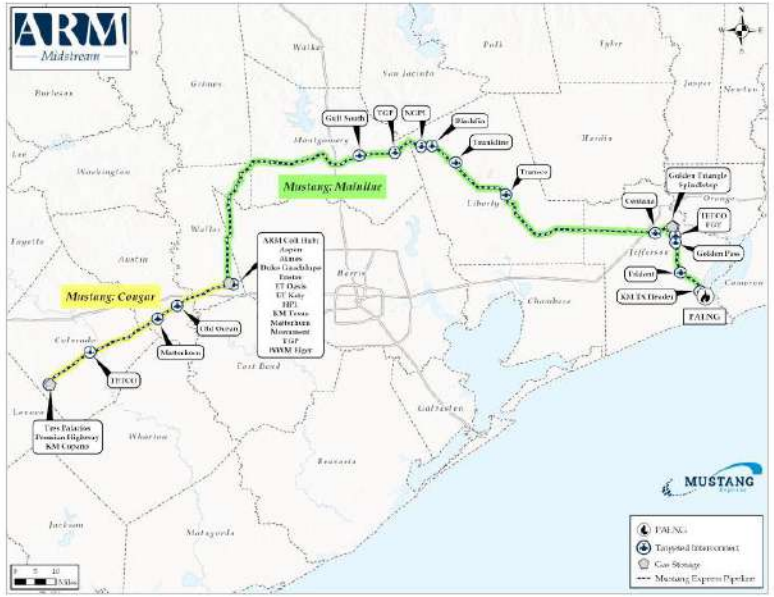
From Open Season

Mustang Express Pipeline, LLC

Non-Binding Open Season

Mustang Express Pipeline, LLC ("Mustang"), a subsidiary of ARM Energy Holdings, LLC ("ARM Energy"), has reached Final Investment Decision (FID) to construct an approximately 240-mile, 42-inch natural gas pipeline designed to safely and reliably transport up to 2.5 billion cubic feet per day on both an intrastate basis and an interstate basis under Section 311 of the Natural Gas Policy Act (the "Project"). Mustang has been strategically routed to connect premier natural gas supply regions with multiple storage facilities, in-path interconnects, and to provide direct access to the Port Arthur LNG ("PALNG") liquefaction facility in Port Arthur, Texas. Designed to deliver outstanding reliability, liquidity, and operational flexibility, the Project is anticipated to enter service in late 2028 or early 2029.

Mustang consists of two pipeline segments: (1) "Cougar," extending from points at or near the Tres Palacios Gas Storage facility in Colorado County to points at or near the Katy Hub in Waller County, and (2) "Mainline," continuing from points at or near the Katy Hub, running north of Houston and terminating at PALNG.



MUSTANG Express

Mustang Express – Colt Hub Receipt and Delivery Points

Bi-Directional "Colt" Hub (at Katy)	
Monument	Waller County, TX
Aspen	Waller County, TX
Atmos	Waller County, TX
Duke Energy Guadalupe	Waller County, TX
Enstor Katy	Waller County, TX
Energy Transfer Oasis	Waller County, TX
Energy Transfer Katy	Waller County, TX
Houston Pipeline	Waller County, TX
Kinder Morgan Texas	Waller County, TX
Matterhorn Express	Waller County, TX
Tennessee Gas	Waller County, TX
WWM Eiger	Waller County, TX

Mustang Express - Targeted Receipt Points

Receipt Points: Mainline	
Colt Hub	Waller County, TX
NGPL	Liberty County, TX
Golden Triangle Storage	Jefferson County, TX
Spindletop Storage	Jefferson County, TX
Receipt Points: Cougar	
Permian Highway	Colorado County, TX
Tres Palacios	Colorado County, TX
Kinder Morgan Copano	Colorado County, TX
TETCO	Colorado County, TX
Matterhorn Express	Austin County, TX
Old Ocean	Austin County, TX
Colt Hub	Waller County, TX

MUSTANG Express

Mustang Express - Targeted Delivery Points

Delivery Points: Mainline	
Colt Hub	Waller County, TX
Gulf South	Montgomery County, TX
Tennessee Gas	Montgomery County, TX
NGPL	Liberty County, TX
Blackfin	Liberty County, TX
Trunkline	Liberty County, TX
Transco	Liberty County, TX
Centana	Jefferson County, TX
Golden Triangle Storage	Jefferson County, TX
Spindletop Storage	Jefferson County, TX
TETCO	Jefferson County, TX
Florida Gas Transmission	Jefferson County, TX
Golden Pass	Jefferson County, TX
Kinder Morgan Trident	Jefferson County, TX
Kinder Morgan Texas Header	Jefferson County, TX
PALNG	Jefferson County, TX
Delivery Points: Cougar	
Tres Palacios	Colorado County, TX
TETCO	Colorado County, TX
Old Ocean	Austin County, TX
Colt Hub	Waller County, TX

© 2025 RBAC Inc. All Rights Reserved.

In GPCM-ESE

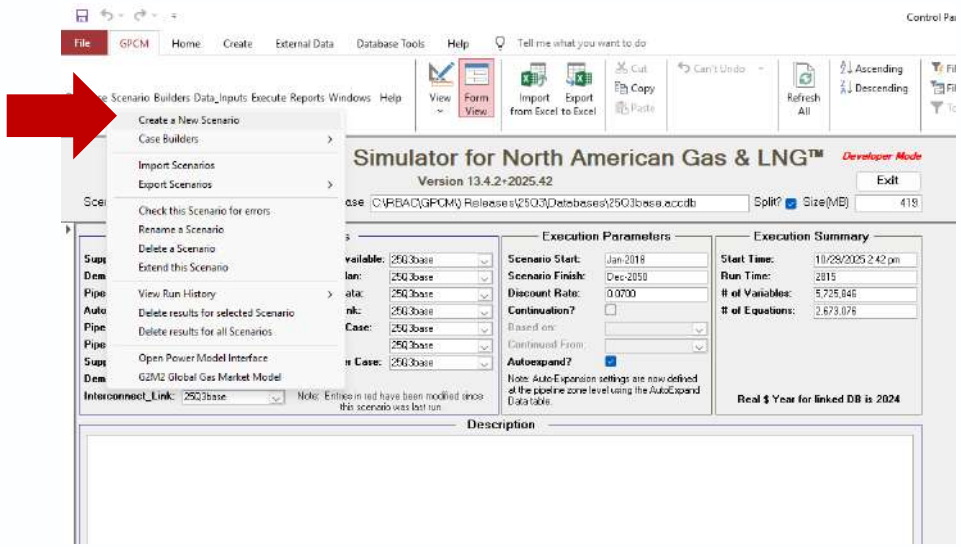
In-Service: Late 2028/Early 2029
Capacity: 2.5 Bcf/D
Zones: Cougar Zone, Mainline Zone
Pipeline Links: 1
Pipeline I/C: 16
Storage Links: 3
Supply Link: 1

Cougar Zone Supply Link - Eagleford	Cougar Zone Storage Links	Cougar Zone Bi-Directional I/C	Mainline Bi-Directional I/C	Mainline Dlv I/C	Mainline Storage Links
Kinder Morgan Copano	Tres Palacios	TETCO	Katy Hub	Gulf South	Golden Triangle Storage
		Old Ocean	NGPL	Tennessee Gas	Spindletop Storage
		Katy Hub		Blackfin	
				Trunkline	
				Transco	
				TETCO	
				Florida Gas Transmission	
				Golden Pass	
				Kinder Morgan Trident	
				Kinder Morgan Texas Header	
				Port Arthur LNG	

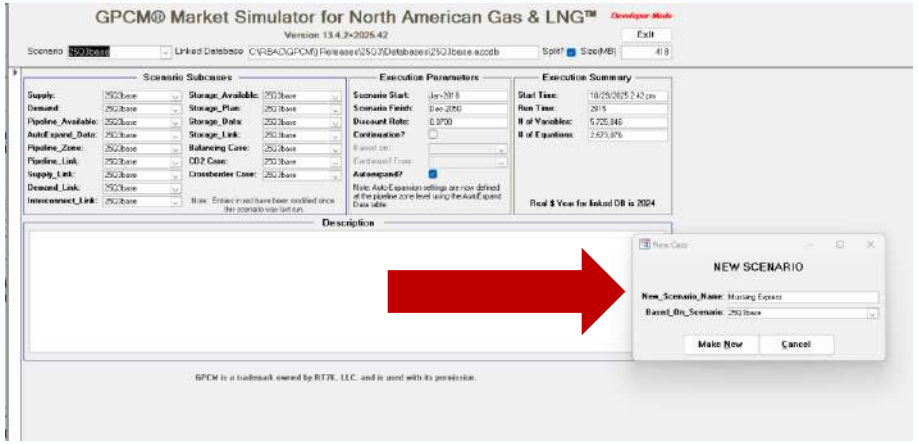
© 2025 RBAC Inc. All Rights Reserved.

Create a New Scenario

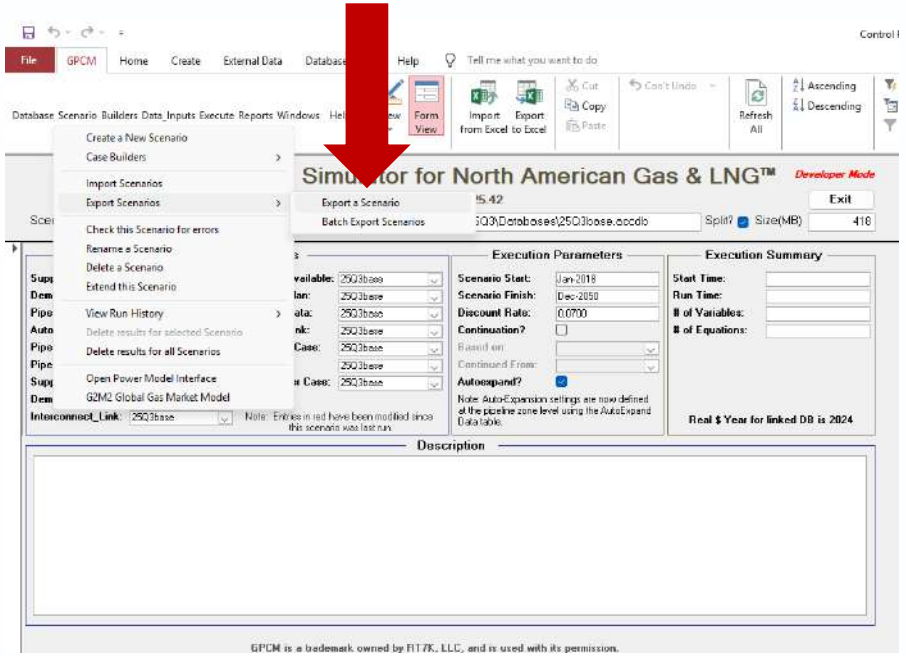
1. Go to Scenario -> Create a Scenario.



2. Name your scenario.



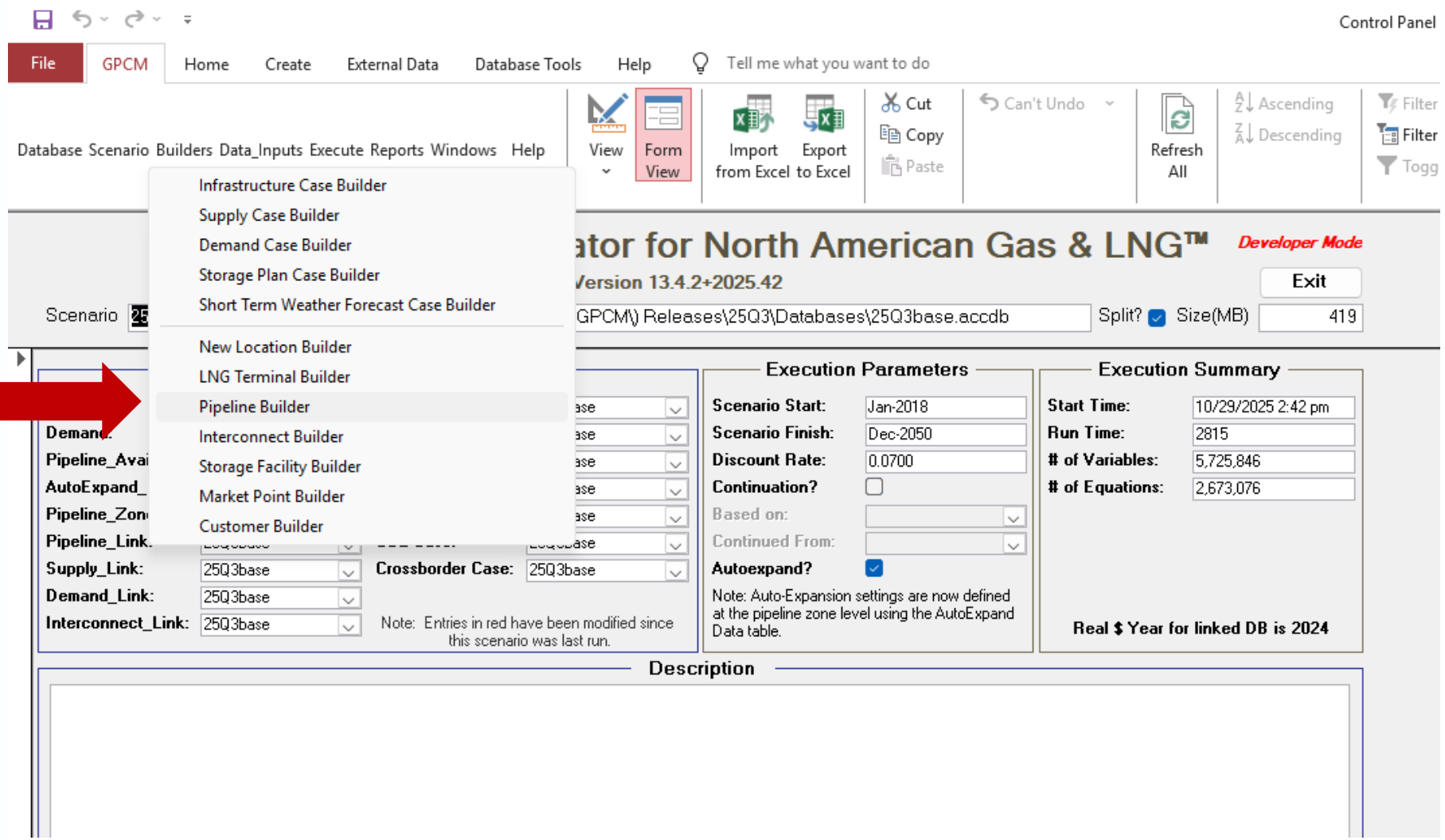
3. Export and connect to your new scenario (if it's a single database).



© 2025 RBAC Inc. All Rights Reserved.

Building a New Pipeline

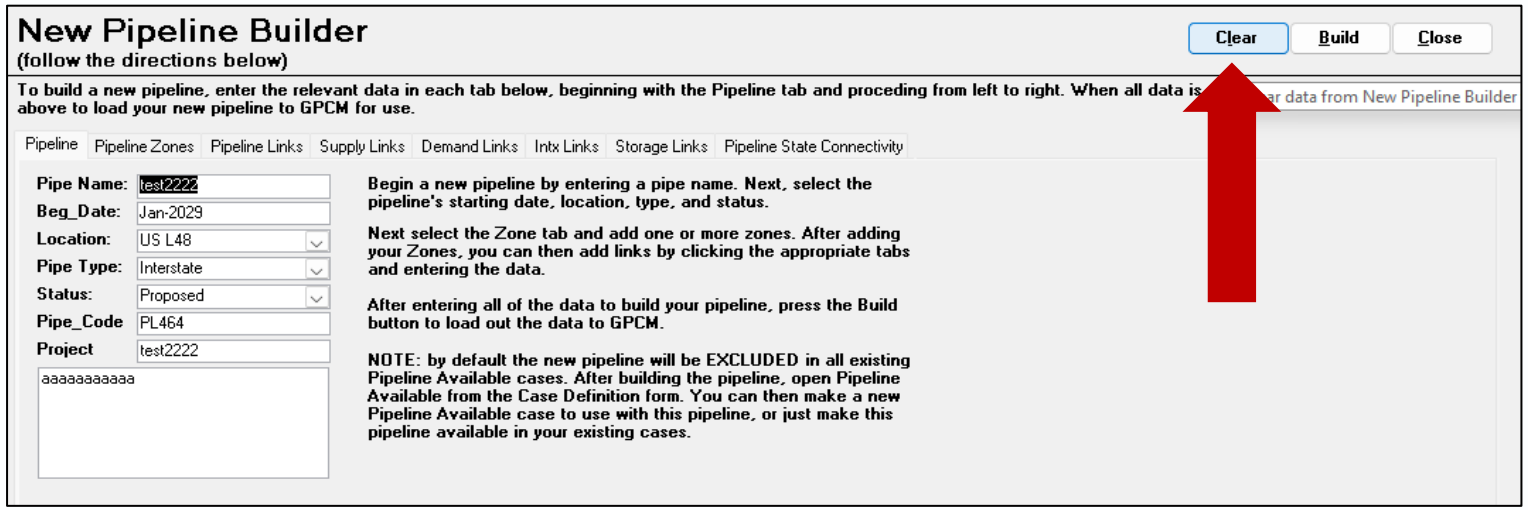
Go to Builders -> Pipeline Builder



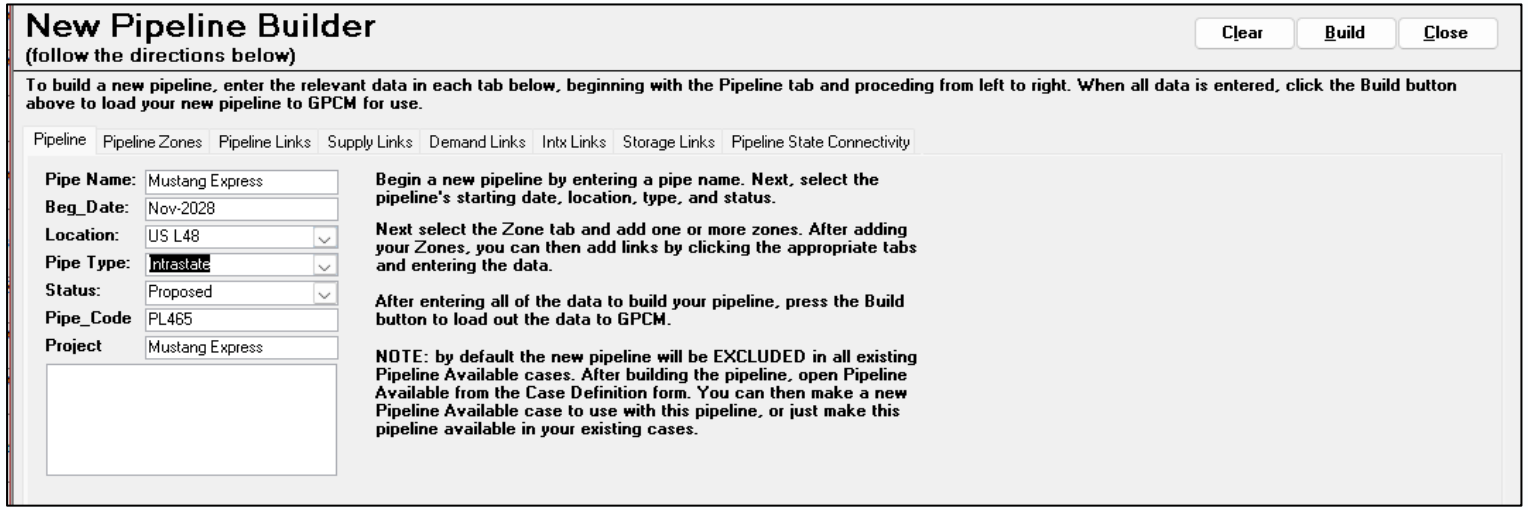
© 2025 RBAC Inc. All Rights Reserved.

Building a New Pipeline

1. Click the clear button to clear the form.



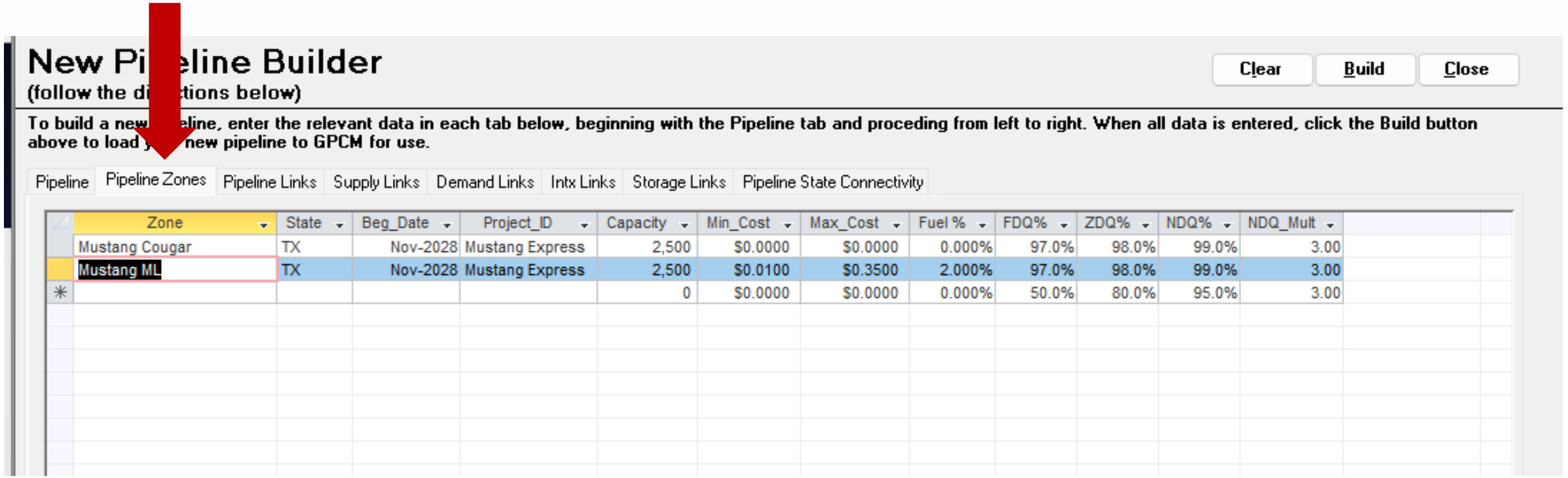
2. Fill out the form with the pipeline information.



© 2025 RBAC Inc. All Rights Reserved.

Building a New Pipeline

3. Create Records for each zone (we used Trident's rates as a proxy for this pipeline)*



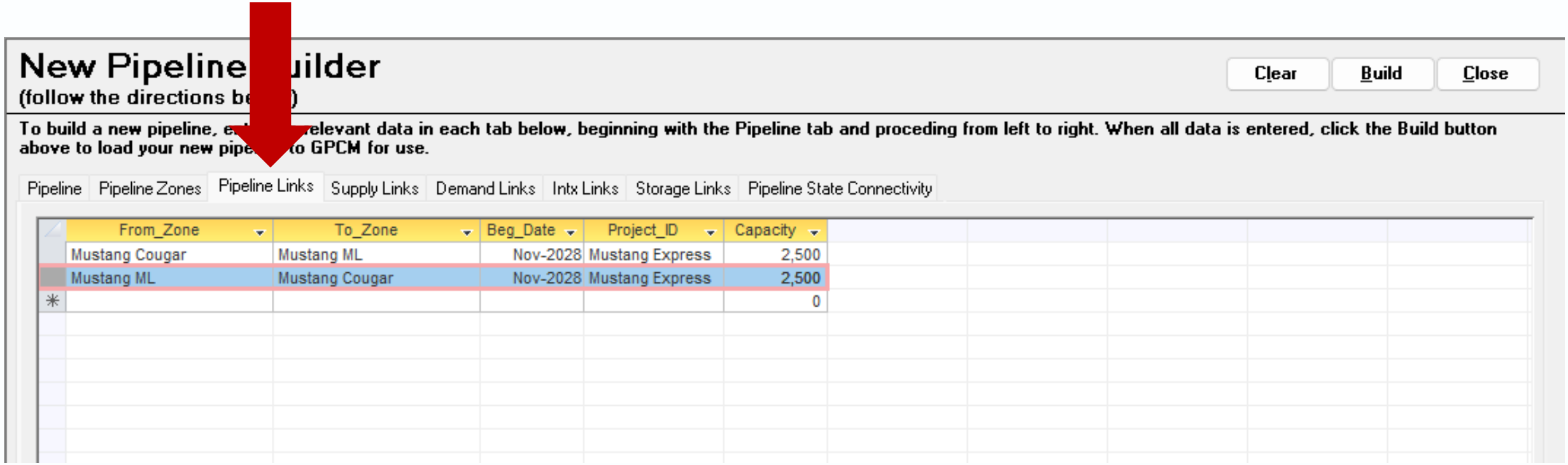
Zone	State	Beg_Date	Project_ID	Capacity	Min_Cost	Max_Cost	Fuel %	FDQ%	ZDQ%	NDQ%	NDQ_Mult
Mustang Cougar	TX	Nov-2028	Mustang Express	2,500	$0.0000	$0.0000	0.000%	97.0%	98.0%	99.0%	3.00
Mustang ML	TX	Nov-2028	Mustang Express	2,500	$0.0100	$0.3500	2.000%	97.0%	98.0%	99.0%	3.00
				0	$0.0000	$0.0000	0.000%	50.0%	80.0%	95.0%	3.00

*If your company has proprietary data that gives specific rates and capacities for each zone you may provide that data here, or in the Zone Data records after the pipeline has been built.

© 2025 RBAC Inc. All Rights Reserved.

Pipeline Builder Cont.

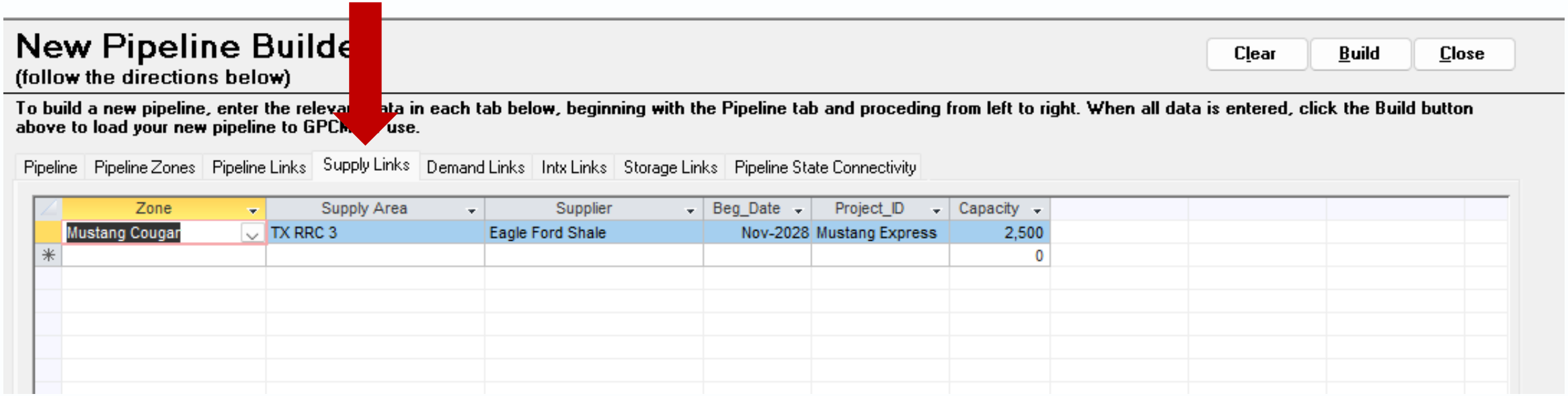
4. Create pipeline links to connect the zones.



© 2025 RBAC Inc. All Rights Reserved.

Pipeline Builder Cont.

4. Mustang is connected to KM Copano plant; add it as a supply link. If you have more specific data on how much gas is received from this connection, you may add it here or in the Supply Links Table.

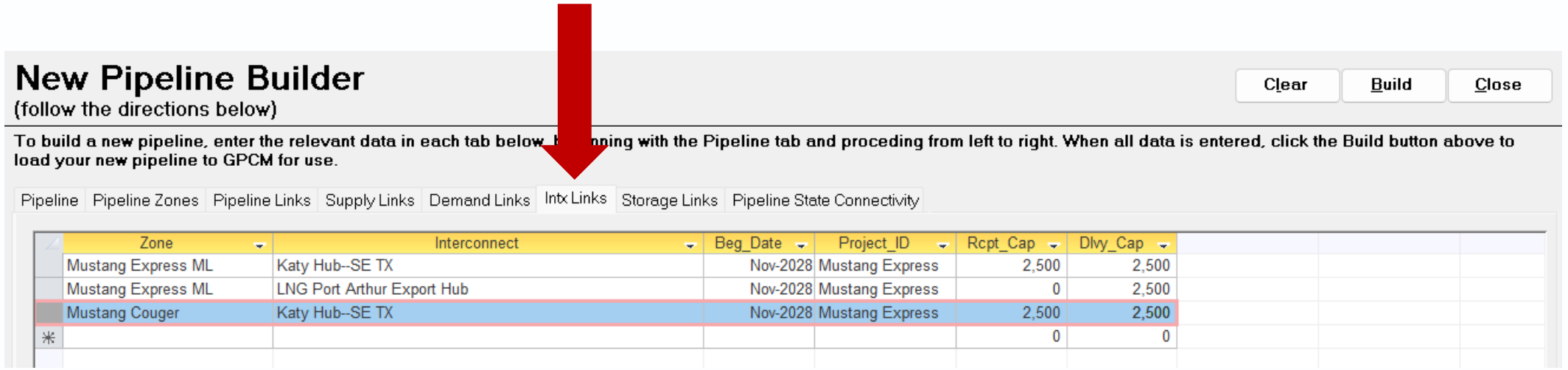


In GPCM, Supply Links could be direct connections to supply, processing plants, gathering pipelines

© 2025 RBAC Inc. All Rights Reserved.

Pipeline Builder Cont.

5. Add the Interconnects associated with the pipeline. If you have more specific data on I/C capacities, you would put them here or in the Interconnect Links Table.



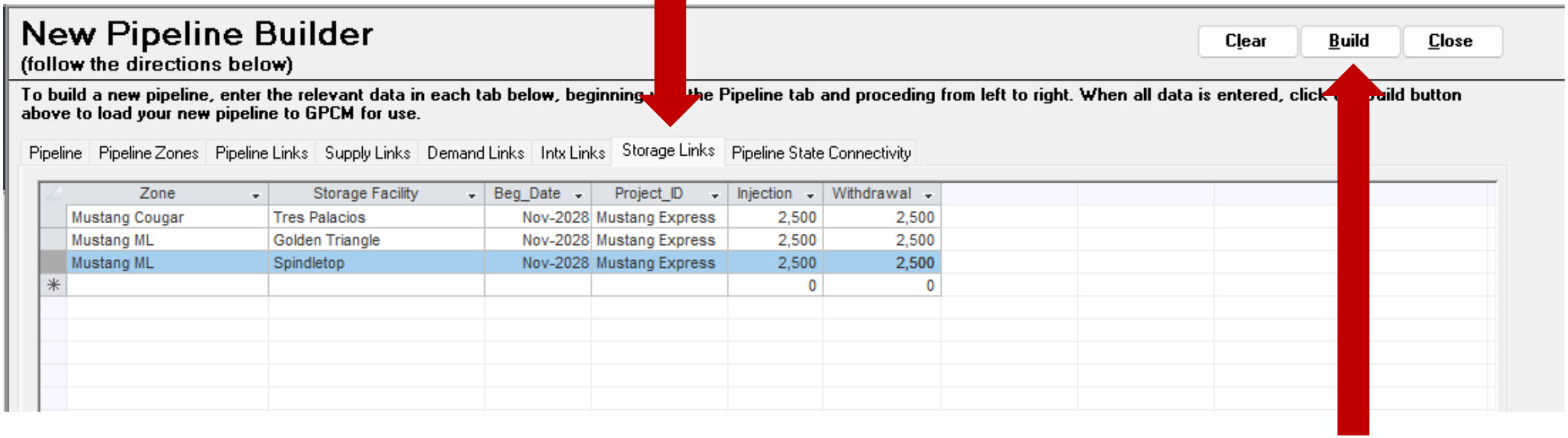
Note: Since these are hubs, you only need to worry about 1 side of the interconnect since these are already named Interconnects. You just need a delivery/receipt I/C from Katy hub, and a Delivery I/C to LNG Port Arthur.

We will build more I/C after the pipeline has been built.

© 2025 RBAC Inc. All Rights Reserved.

Naming the Interconnect

6. Connect Storage to the pipeline with Storage Links. If you have more specific data on Inj/WD you would put it here or in Storage Link data



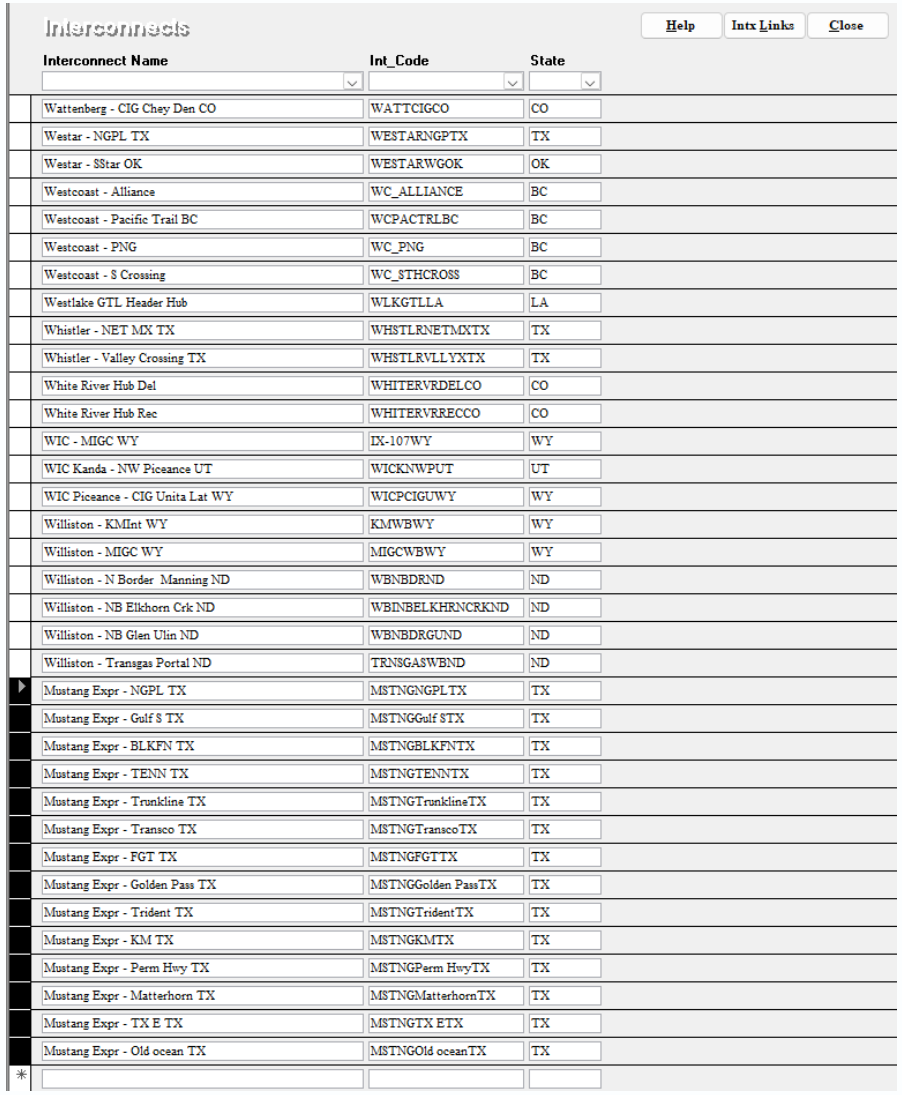
7. Click Build!

© 2025 RBAC Inc. All Rights Reserved.

Back to Interconnects

To build an interconnect you will need to:

1. To name the interconnect if not existing already: Data inputs -> Pipeline Model -> Interconnects.

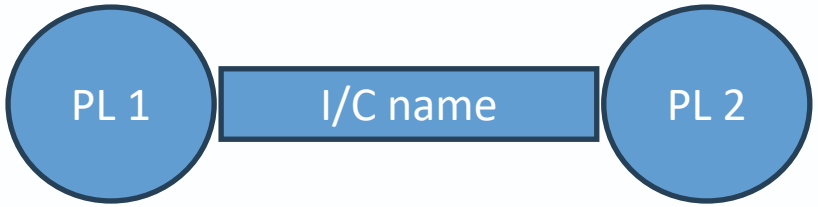


Interconnect Name	Int_Code	State
Wattenberg - CIG Chey Den CO	WATTCIGCO	CO
Westar - NGPL TX	WESTARNGPTX	TX
Westar - SStar OK	WESTARWGOK	OK
Westcoast - Alliance	WC_ALLIANCE	BC
Westcoast - Pacific Trail BC	WCPACTRLBC	BC
Westcoast - PNG	WC_PNG	BC
Westcoast - S Crossing	WC_STHCROSS	BC
Westlake GTL Header Hub	WLKGTLLA	LA
Whistler - NET MX TX	WHSTLRNETMXTX	TX
Whistler - Valley Crossing TX	WHSTLRVLLYXTX	TX
White River Hub Del	WHITERVRDELCO	CO
White River Hub Rec	WHITERVRRECCO	CO
WIC - MIGC WY	IX-107WY	WY
WIC Kanda - NW Piceance UT	WICKNWPUT	UT
WIC Piceance - CIG Unita Lat WY	WICPCIGUWY	WY
Williston - KMInt WY	KMWBWY	WY
Williston - MIGC WY	MIGCWBWY	WY
Williston - N Border Manning ND	WBNBDRND	ND
Williston - NB Elkhorn Crk ND	WBINBELKHRNCRKND	ND
Williston - NB Glen Ulin ND	WBNBDRGUND	ND
Williston - Transgas Portal ND	TRNSGASWBND	ND
Mustang Expr - NGPL TX	MSTNGNGPLTX	TX
Mustang Expr - Gulf S TX	MSTNGGulf STX	TX
Mustang Expr - BLKFN TX	MSTNGBLKFNTX	TX
Mustang Expr - TENN TX	MSTNGTENNTX	TX
Mustang Expr - Trunkline TX	MSTNGTrunklineTX	TX
Mustang Expr - Transco TX	MSTNGTranscoTX	TX
Mustang Expr - FGT TX	MSTNGFGTTX	TX
Mustang Expr - Golden Pass TX	MSTNGGolden PassTX	TX
Mustang Expr - Trident TX	MSTNGTridentTX	TX
Mustang Expr - KM TX	MSTNGKMTX	TX
Mustang Expr - Perm Hwy TX	MSTNGPerm HwyTX	TX
Mustang Expr - Matterhorn TX	MSTNGMatterhornTX	TX
Mustang Expr - TX E TX	MSTNGTX ETX	TX
Mustang Expr - Old ocean TX	MSTNGOld oceanTX	TX

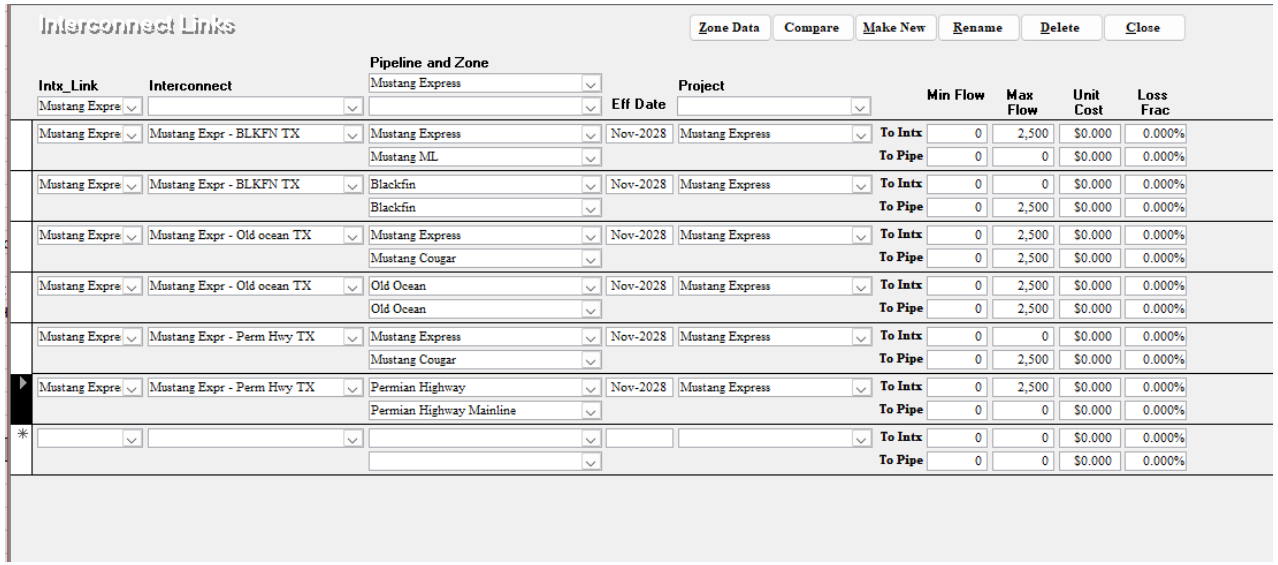
© 2025 RBAC Inc. All Rights Reserved.

Build the Interconnect

2. Then, you'll need to build the Interconnect – Data inputs -> Pipeline Model -> Interconnect Link Data.
   - To build an I/C you need two sides of the I/C, one for the new pipe and one for the pipeline you are connecting to.



Good rule to remember when building I/C is you will need two records for each I/C.


Interconnect Links

Zone Data | Compare | Make New | Rename | Delete | Close

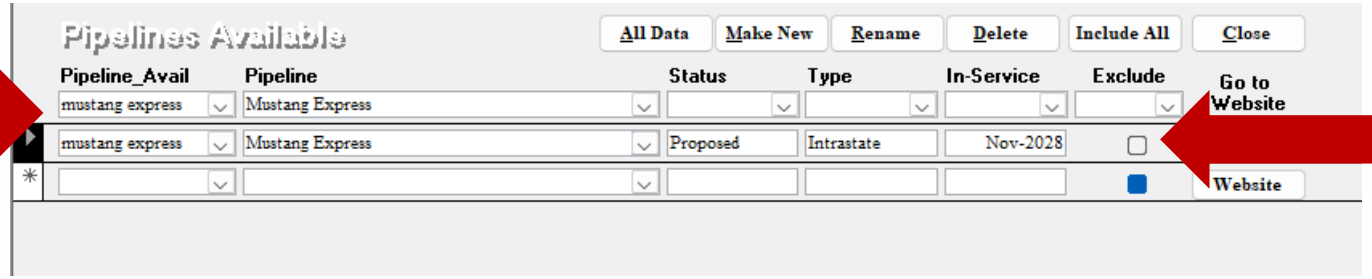
Intx_Link	Interconnect	Pipeline and Zone	Eff Date	Project		Min Flow	Max Flow	Unit Cost	Loss Frac
Mustang Expre		Mustang Express							
Mustang Expre	Mustang Expr - BLKFN TX	Mustang Express	Nov-2028	Mustang Express	To Intx	0	2,500	$0.000	0.000%
		Mustang ML			To Pipe	0	0	$0.000	0.000%
Mustang Expre	Mustang Expr - BLKFN TX	Blackfin	Nov-2028	Mustang Express	To Intx	0	0	$0.000	0.000%
		Blackfin			To Pipe	0	2,500	$0.000	0.000%
Mustang Expre	Mustang Expr - Old ocean TX	Mustang Express	Nov-2028	Mustang Express	To Intx	0	2,500	$0.000	0.000%
		Mustang Cougar			To Pipe	0	2,500	$0.000	0.000%
Mustang Expre	Mustang Expr - Old ocean TX	Old Ocean	Nov-2028	Mustang Express	To Intx	0	2,500	$0.000	0.000%
		Old Ocean			To Pipe	0	2,500	$0.000	0.000%
Mustang Expre	Mustang Expr - Perm Hwy TX	Mustang Express	Nov-2028	Mustang Express	To Intx	0	0	$0.000	0.000%
		Mustang Cougar			To Pipe	0	2,500	$0.000	0.000%
Mustang Expre	Mustang Expr - Perm Hwy TX	Permian Highway	Nov-2028	Mustang Express	To Intx	0	2,500	$0.000	0.000%
		Permian Highway Mainline			To Pipe	0	0	$0.000	0.000%
					To Intx	0	0	$0.000	0.000%
					To Pipe	0	0	$0.000	0.000%

To Intx – Delivery
To Pipe – Receipt
To Intx & To Pipe – Bi-directional

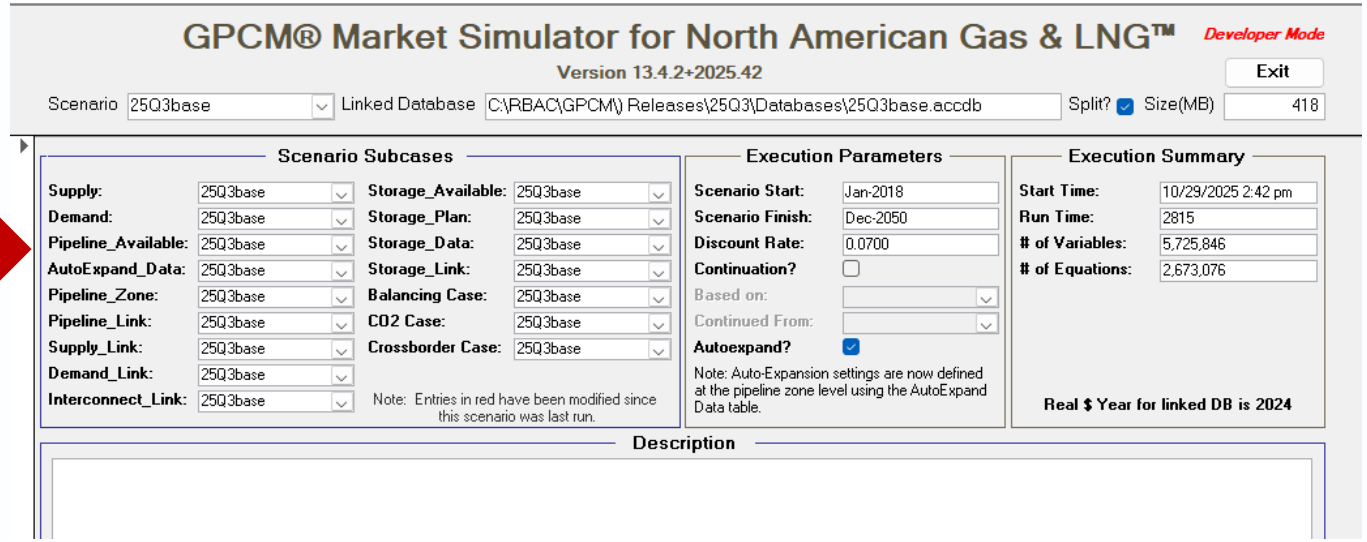
© 2025 RBAC Inc. All Rights Reserved.

Turn Pipeline on

8. Go to Pipeline Available, make a new case, filter for Mustang Express and uncheck the exclude box to turn on the pipeline.



9. Back on the control panel select your new pipeline available case

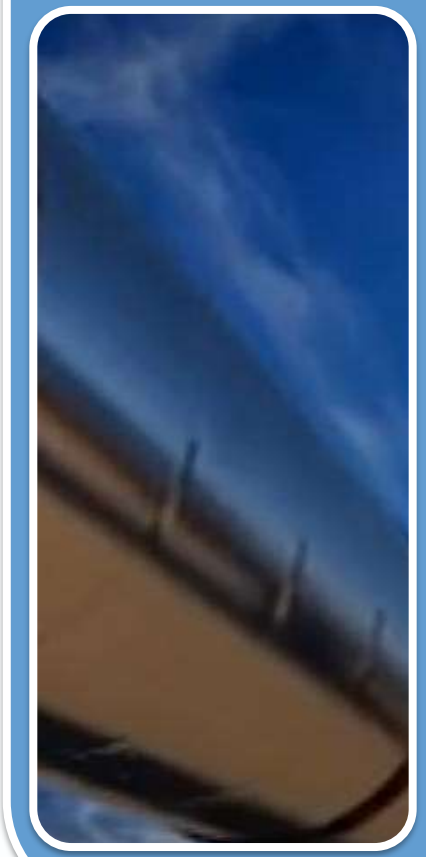


© 2025 RBAC Inc. All Rights Reserved.

GPCM Infrastructure Workshop

Adding a Pipeline Expansion – Transwestern Desert SW Example

Adding New Pipeline Expansion Project



Data Needed to add an Expansion

- Pipeline Capacity added (MMcf/d)
- Expansion In-Service Date
- Impacted Pipeline Zones
- Project Detail:
  - Looping & Compression?
  - Adding new pipe or lateral?
  - New receipt/delivery locations?
- Rate Type
  - Rolled-in?
  - Incremental?

© 2025 RBAC Inc. All Rights Reserved.

Another Doc to Decipher

Transwestern Pipeline Company, LLC
Desert Southwest Expansion
Binding Open Season

Transwestern Pipeline Company, LLC ("Transwestern") announces a binding Open Season for an expansion of its system in Texas, New Mexico and Arizona to create a path for Permian natural gas supply to reach markets in the Desert Southwest. The Open Season begins at 12:00 p.m. CDT on September 26, 2025, and ends at 12:00 p.m. CDT on October 25, 2025. Parties interested in obtaining capacity in this Open Season must submit an executed Bid Form, Precedent Agreement and Credit Agreement as specified herein.

Project Overview
As currently designed, the Desert Southwest Expansion ("Project") is a combination of new large-diameter pipeline, compression and metering facilities capable of transporting a minimum of 1.5 billion cubic feet per day ("Bcf/d") of natural gas from various receipt points in the Permian Basin area to existing and new delivery points in New Mexico and Arizona.

Transwestern has secured sufficient binding commitments to proceed with the Project. The additional binding commitments submitted in connection with this Open Season will be included in determining, in Transwestern's sole discretion, the optimal size and design of the Project.

The Project is subject to Transwestern receiving necessary regulatory approvals, permits and other related authorizations and construction of the Project facilities. Transwestern anticipates the Project capacity to be available by the 4th Quarter of 2029.

Project Benefits
- Supply Reliability – increased access to Permian supply for Desert Southwest markets
- Delivery Flexibility:
  - Rates and services designed specifically for the needs of local distribution companies, power generators and data centers
  - Modifications to make Transwestern's existing Phoenix Lateral bi-directional

Firm Transportation Capacity
The Project will provide a minimum of 1.5 Bcf/d of incremental capacity:
- 1.10 Bcf/d ratable (24-hour)
- 0.40 Bcf/d peaking (16-hour)

Rate Schedules
Project capacity will be available for firm transportation service under two new Rate Schedules upon securing the necessary approval from the Federal Energy Regulatory Commission ("FERC") and made a part of Transwestern's FERC Gas Tariff:
- FTS-1P: similar to Transwestern's current Rate Schedule FTS-1 service; daily scheduled quantities delivered on a ratable basis over 24 hours
- FTS-3P: similar to Transwestern's current Rate Schedule FTS-3 service; daily scheduled quantities may be delivered in as few as 16 hours

Transwestern will establish initial recourse rates (reservation, usage and fuel reimbursement) for these new rate schedules based on the final scope and design of the Project, final project costs and capacity commitments. Service that utilizes a delivery point on the legacy Transwestern system will be subject to the rates and charges applicable to that service as set forth in Transwestern's FERC Gas Tariff.

Participants in this Open Season may select either the eventual FERC-approved recourse rates (as they may change from time to time), or fixed negotiated rates as set forth herein.

Transwestern will not accept bids for service at negotiated rates that are less than the following:

Rate Schedule	Fixed Negotiated Reservation Rate ($/Dth/day)	Fixed Negotiated Usage Rate ($/Dth)	Fixed Fuel Reimbursement
FTS-1P	$1.40	$0.038	2.87%
FTS-3P	$1.90	$0.038	2.87%

All Project shippers will be subject to any applicable surcharges as set forth in Transwestern's FERC Gas Tariff (as they may change from time to time).

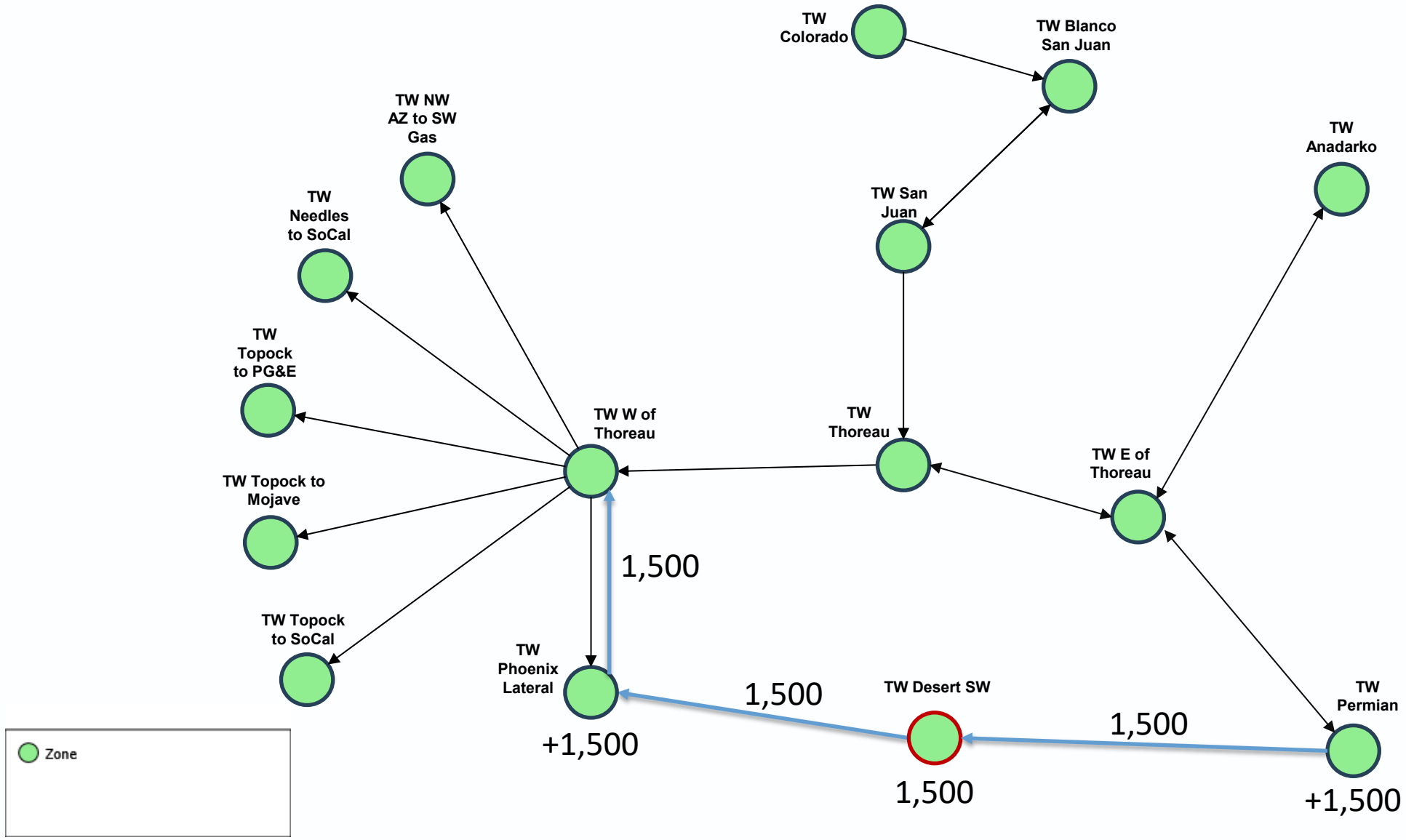
Minimum Term
All requests for service in this Open Season must include a contract term of at least twenty-five years.

© 2025 RBAC Inc. All Rights Reserved.

Project Map

© 2025 RBAC Inc. All Rights Reserved.

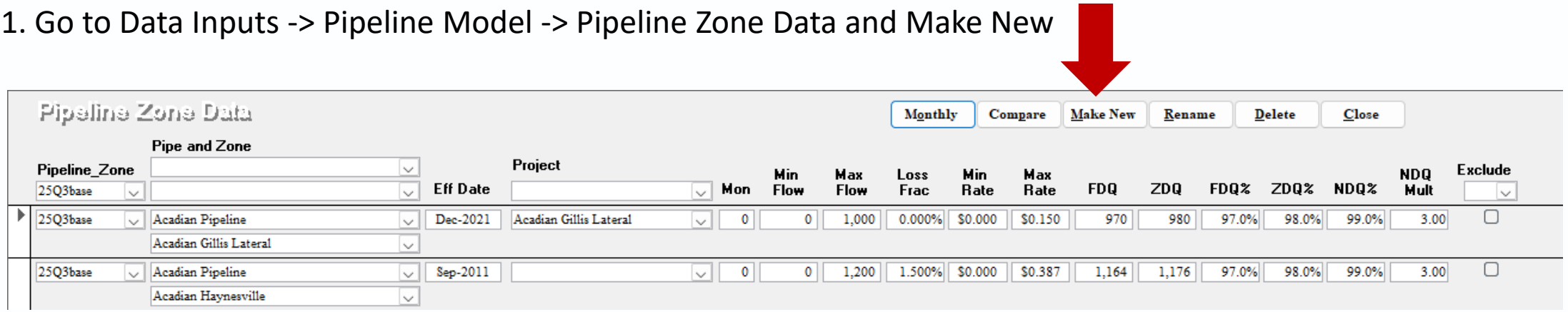
Transwestern

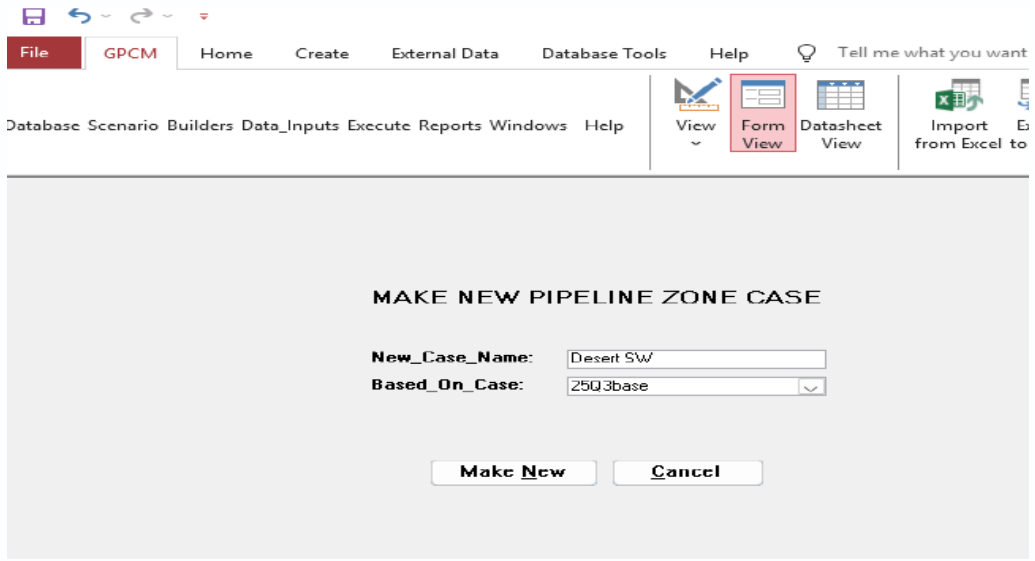


© 2025 RBAC Inc. All Rights Reserved.

Adding Project to Transwestern

1. Go to Data Inputs -> Pipeline Model -> Pipeline Zone Data and Make New

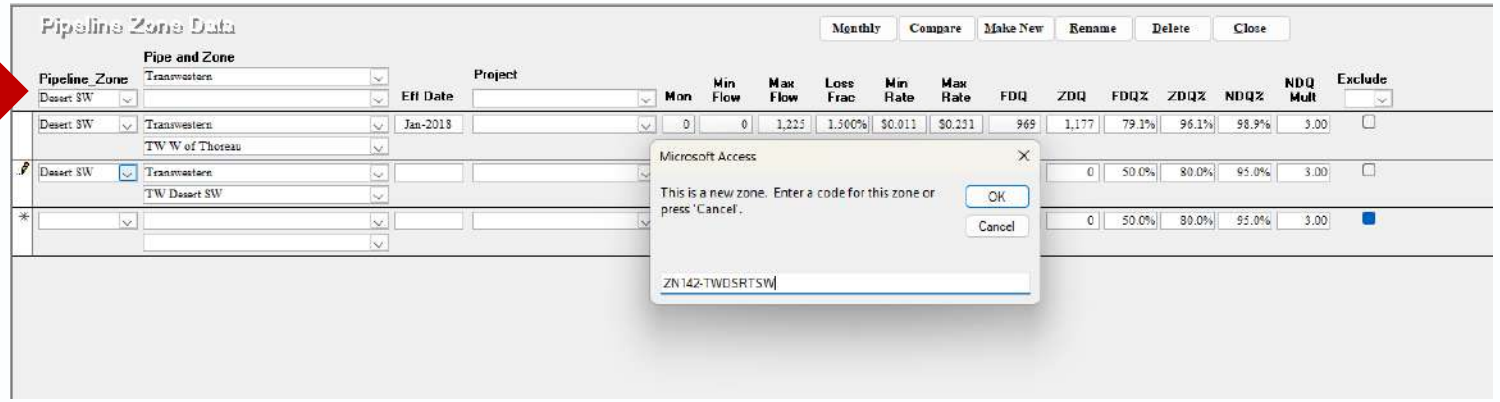




© 2025 RBAC Inc. All Rights Reserved.

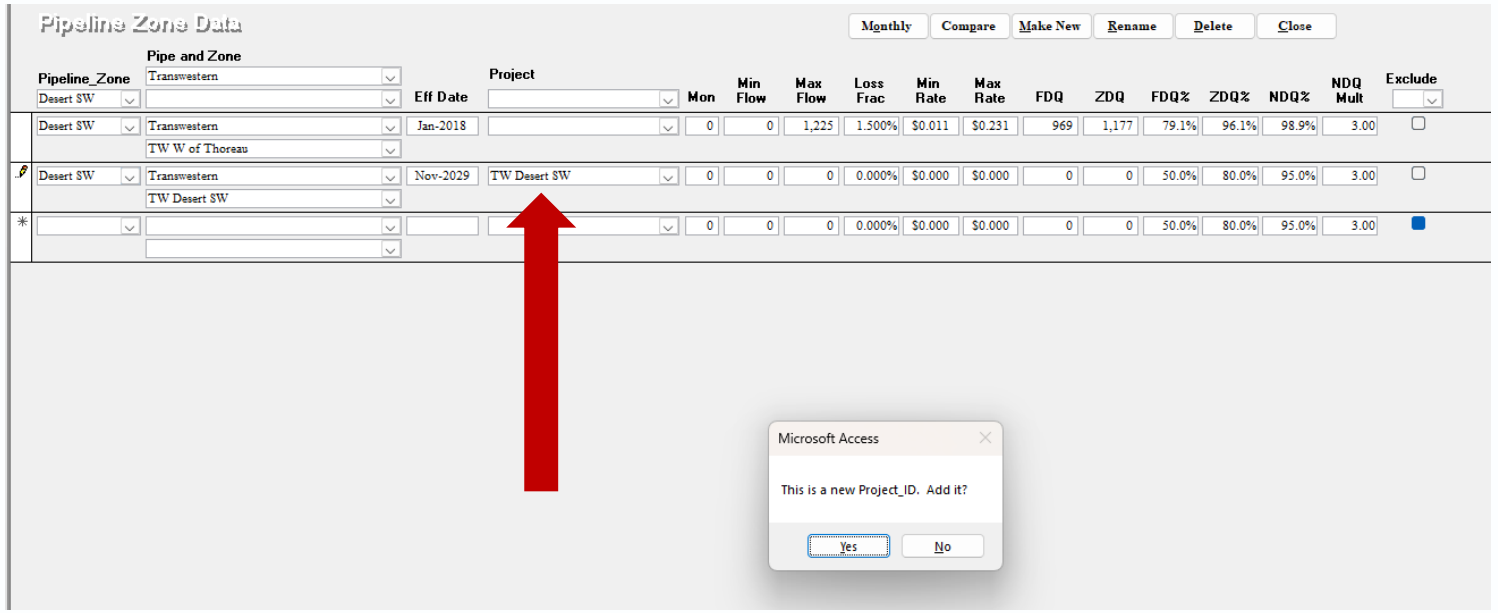
Adding Project to Transwestern cont.

2. Filter For Transwestern



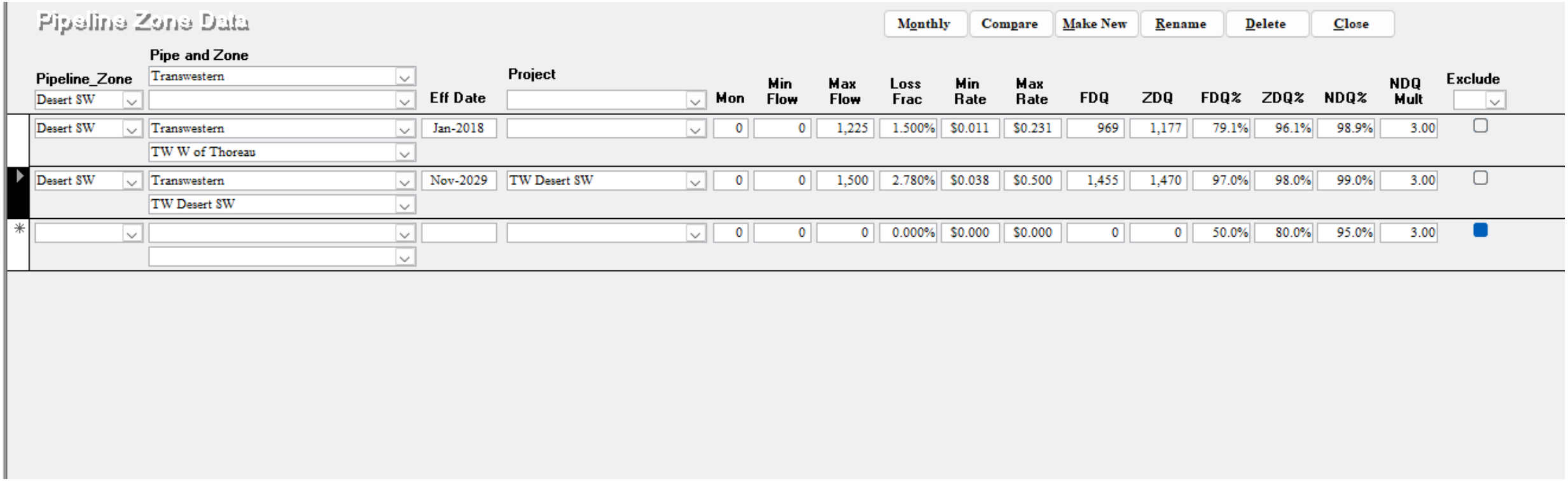
3. Create the TW Desert SW Zone (as you add it you will be asked to give a code for the zone and what state it is in) with the following info:

- In-service date will be Nov-2029
- Project Name: TW Desert SW
- Min Flow: 0
- Max Flow: 1,500
- Fuel is 2.78%
- Min Rate $0.038
- Max Rate $0.50
- FDQ/ZDQ/NDQ: 97/98/99%



© 2025 RBAC Inc. All Rights Reserved.

Completed Zone Data Record

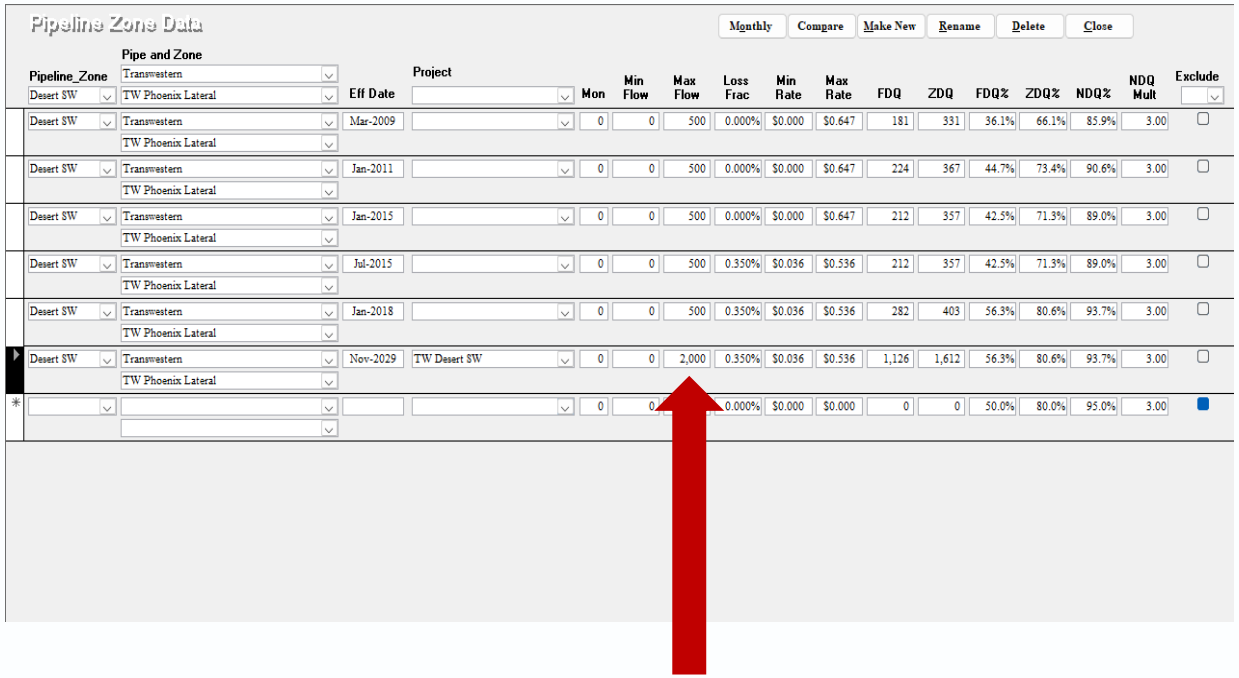


Pipeline_Zone	Pipe and Zone	Eff Date	Project	Mon	Min Flow	Max Flow	Loss Frac	Min Rate	Max Rate	FDQ	ZDQ	FDQ%	ZDQ%	NDQ%	NDQ Mult	Exclude
Desert SW	Transwestern / TW W of Thoreau	Jan-2018		0	0	1,225	1.500%	$0.011	$0.231	969	1,177	79.1%	96.1%	98.9%	3.00	☐
Desert SW	Transwestern / TW Desert SW	Nov-2029	TW Desert SW	0	0	1,500	2.780%	$0.038	$0.500	1,455	1,470	97.0%	98.0%	99.0%	3.00	☐
				0	0	0	0.000%	$0.000	$0.000	0	0	50.0%	80.0%	95.0%	3.00	■

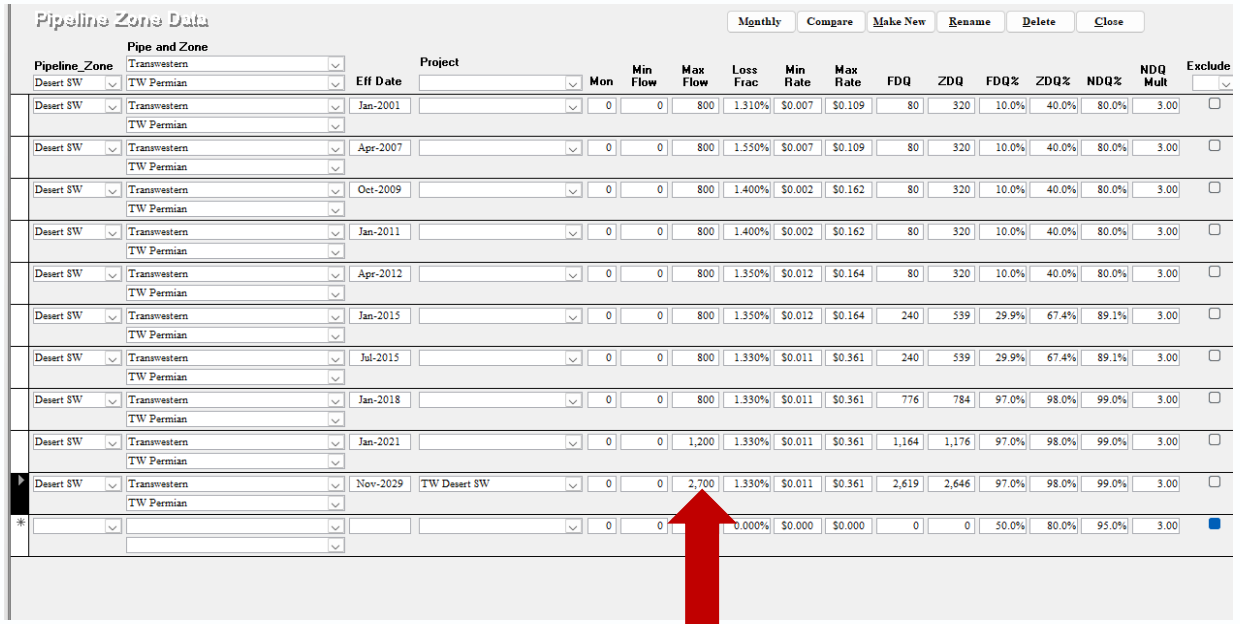
© 2025 RBAC Inc. All Rights Reserved.

Check Other Zone Capacity

4. Boost the TW Permian zone and TX Pheonix Lateral Zone to accommodate the Project



Pipeline_Zone	Pipe and Zone	Eff Date	Project	Mon	Min Flow	Max Flow	Loss Frac	Min Rate	Max Rate	FDQ	ZDQ	FDQ%	ZDQ%	NDQ%	NDQ Mult	Exclude
Desert SW	Transwestern															
Desert SW	TW Phoenix Lateral															
Desert SW	Transwestern	Mar-2009		0	0	500	0.000%	$0.000	$0.647	181	331	36.1%	66.1%	85.9%	3.00	
	TW Phoenix Lateral															
Desert SW	Transwestern	Jan-2011		0	0	500	0.000%	$0.000	$0.647	224	367	44.7%	73.4%	90.6%	3.00	
	TW Phoenix Lateral															
Desert SW	Transwestern	Jan-2015		0	0	500	0.000%	$0.000	$0.647	212	357	42.5%	71.3%	89.0%	3.00	
	TW Phoenix Lateral															
Desert SW	Transwestern	Jul-2015		0	0	500	0.350%	$0.036	$0.536	212	357	42.5%	71.3%	89.0%	3.00	
	TW Phoenix Lateral															
Desert SW	Transwestern	Jan-2018		0	0	500	0.350%	$0.036	$0.536	282	403	56.3%	80.6%	93.7%	3.00	
	TW Phoenix Lateral															
Desert SW	Transwestern	Nov-2029	TW Desert SW	0	0	2,000	0.350%	$0.036	$0.536	1,126	1,612	56.3%	80.6%	93.7%	3.00	
	TW Phoenix Lateral															
				0	0	0	0.000%	$0.000	$0.000	0	0	50.0%	80.0%	95.0%	3.00	



Pipeline_Zone	Pipe and Zone	Eff Date	Project	Mon	Min Flow	Max Flow	Loss Frac	Min Rate	Max Rate	FDQ	ZDQ	FDQ%	ZDQ%	NDQ%	NDQ Mult	Exclude
Desert SW	Transwestern															
Desert SW	TW Permian															
Desert SW	Transwestern	Jan-2001		0	0	800	1.310%	$0.007	$0.109	80	320	10.0%	40.0%	80.0%	3.00	
	TW Permian															
Desert SW	Transwestern	Apr-2007		0	0	800	1.550%	$0.007	$0.109	80	320	10.0%	40.0%	80.0%	3.00	
	TW Permian															
Desert SW	Transwestern	Oct-2009		0	0	800	1.400%	$0.002	$0.162	80	320	10.0%	40.0%	80.0%	3.00	
	TW Permian															
Desert SW	Transwestern	Jan-2011		0	0	800	1.400%	$0.002	$0.162	80	320	10.0%	40.0%	80.0%	3.00	
	TW Permian															
Desert SW	Transwestern	Apr-2012		0	0	800	1.350%	$0.012	$0.164	80	320	10.0%	40.0%	80.0%	3.00	
	TW Permian															
Desert SW	Transwestern	Jan-2015		0	0	800	1.350%	$0.012	$0.164	240	539	29.9%	67.4%	89.1%	3.00	
	TW Permian															
Desert SW	Transwestern	Jul-2015		0	0	800	1.330%	$0.011	$0.361	240	539	29.9%	67.4%	89.1%	3.00	
	TW Permian															
Desert SW	Transwestern	Jan-2018		0	0	800	1.330%	$0.011	$0.361	776	784	97.0%	98.0%	99.0%	3.00	
	TW Permian															
Desert SW	Transwestern	Jan-2021		0	0	1,200	1.330%	$0.011	$0.361	1,164	1,176	97.0%	98.0%	99.0%	3.00	
	TW Permian															
Desert SW	Transwestern	Nov-2029	TW Desert SW	0	0	2,700	1.330%	$0.011	$0.361	2,619	2,646	97.0%	98.0%	99.0%	3.00	
	TW Permian															
				0	0	0	0.000%	$0.000	$0.000	0	0	50.0%	80.0%	95.0%	3.00	

© 2025 RBAC Inc. All Rights Reserved.

Don’t Forget the Pipelinks

5. Add pipeline links to connect the zones: TW Permian -> TW Desert SW; TW Desert SW -> TW Pheonix Lateral; TW Pheonix lateral -> TW W of Thoreau

Pipeline Links

Compare | Make New | Rename | Delete | Close

Pipeline_Link	Pipeline	From Zone	To Zone	Eff_Date	Project	Min Flow	Max Flow	Unit Cost	Loss Frac
Desert SW	Transwestern				TW Desert SW				
Desert SW	Transwestern	TW Desert SW	TW Phoenix Lateral	Nov-2029	TW Desert SW	0	1,500	$0.000	0.000%
Desert SW	Transwestern	TW Permian	TW Desert SW	Nov-2029	TW Desert SW	0	1,500	$0.000	0.000%
Desert SW	Transwestern	TW Phoenix Lateral	TW W of Thoreau	Nov-2029	TW Desert SW	0	1,500	$0.000	0.000%
*									

© 2025 RBAC Inc. All Rights Reserved.

GPCM Infrastructure Workshop

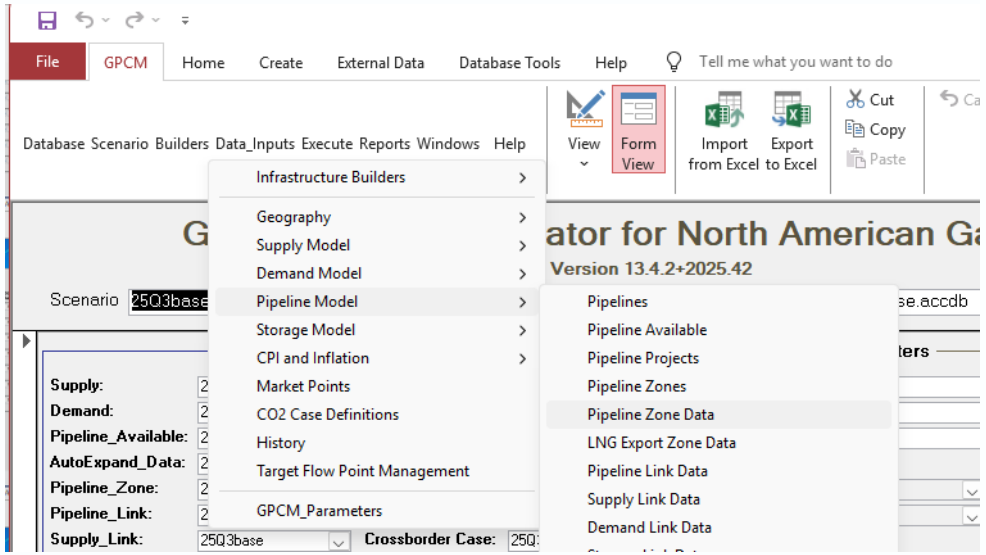
Turning “On” a Pipeline

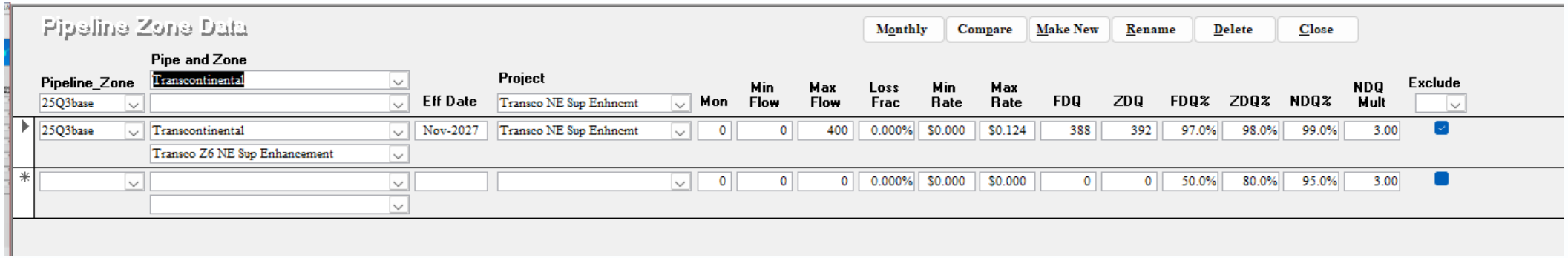
Turning on NESE Project

Sometimes an announced project on an existing pipeline gets put on hold and may need to be turned back “On” when there has been progress in its status

NESE Project recently been granted its permits to go forward with it’s project

Transco’s NESE Project needs to be turned on through the Zone Data Records Data Inputs ->Pipeline model -> Pipeline Zone Data





© 2025 RBAC Inc. All Rights Reserved.

GPCM Infrastructure Workshop

Adding Projects with Incremental or Rolled-In Rates

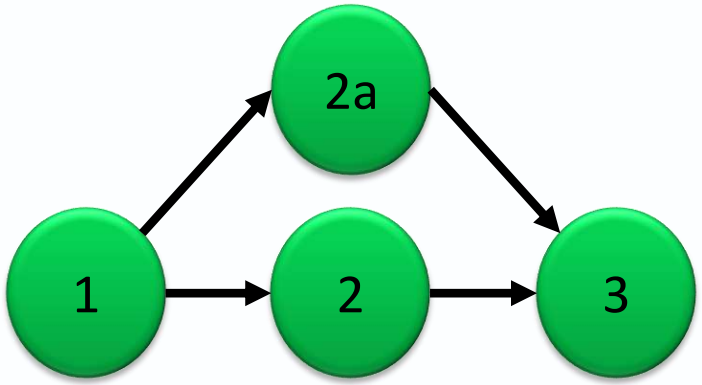
Adding Other types of Projects

- Generally when an announced project states that they're adding just looping and compression within a zone, and not incorporating specific rates for the project.
- Consists of just updating existing zones/pipelinks in GPCM with new capacity

Rolled-In Rates

- When a project states that they are adding incremental capacity and will have specific transportation rates for it.
- Consists of making a duplicate zone of an existing one using the new capacity and rates being

Incremental Rates

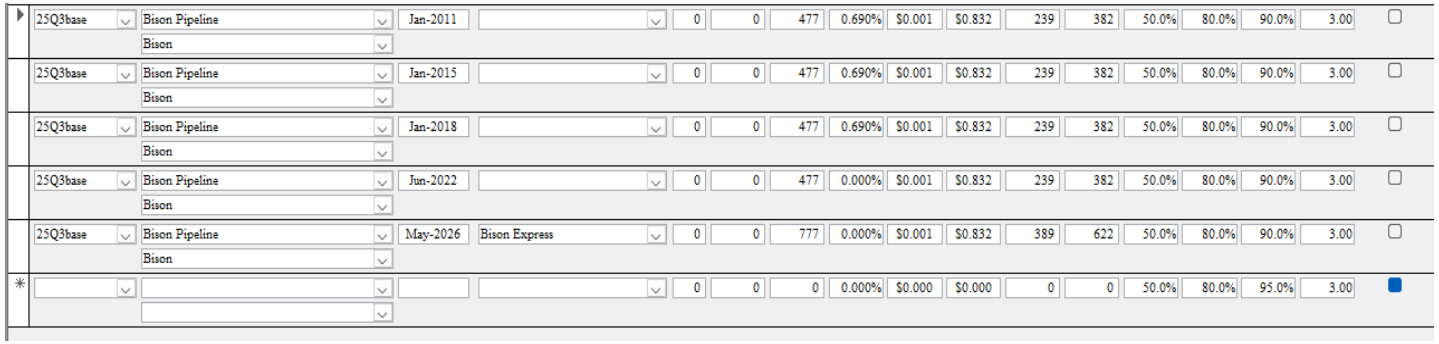


© 2025 RBAC Inc. All Rights Reserved.

Adding a Project with Rolled-In Rates

How to add a project with rolled-in rates?

- Determine what zone/zones are being expanded.
- In GPCM go to Data Inputs-> Pipeline model-> Pipeline Zone Data
- Do a make new to create a new sub case
- Filter for the pipeline and pipeline zone you are expanding
- Create a new record with the new in-service date of the project, and new capacity, and keep the rest of the data the same as the previous record.



25Q3base	Bison Pipeline Bison	Jan-2011		0	0	477	0.690%	$0.001	$0.832	239	382	50.0%	80.0%	90.0%	3.00	
25Q3base	Bison Pipeline Bison	Jan-2015		0	0	477	0.690%	$0.001	$0.832	239	382	50.0%	80.0%	90.0%	3.00	
25Q3base	Bison Pipeline Bison	Jan-2018		0	0	477	0.690%	$0.001	$0.832	239	382	50.0%	80.0%	90.0%	3.00	
25Q3base	Bison Pipeline Bison	Jun-2022		0	0	477	0.000%	$0.001	$0.832	239	382	50.0%	80.0%	90.0%	3.00	
25Q3base	Bison Pipeline Bison	May-2026	Bison Express	0	0	777	0.000%	$0.001	$0.832	389	622	50.0%	80.0%	90.0%	3.00	
				0	0	0	0.000%	$0.000	$0.000	0	0	50.0%	80.0%	95.0%	3.00	

© 2025 RBAC Inc. All Rights Reserved.

The Following projects are Hypothetical and made up for presentation purposes.

© 2025 RBAC Inc. All Rights Reserved.

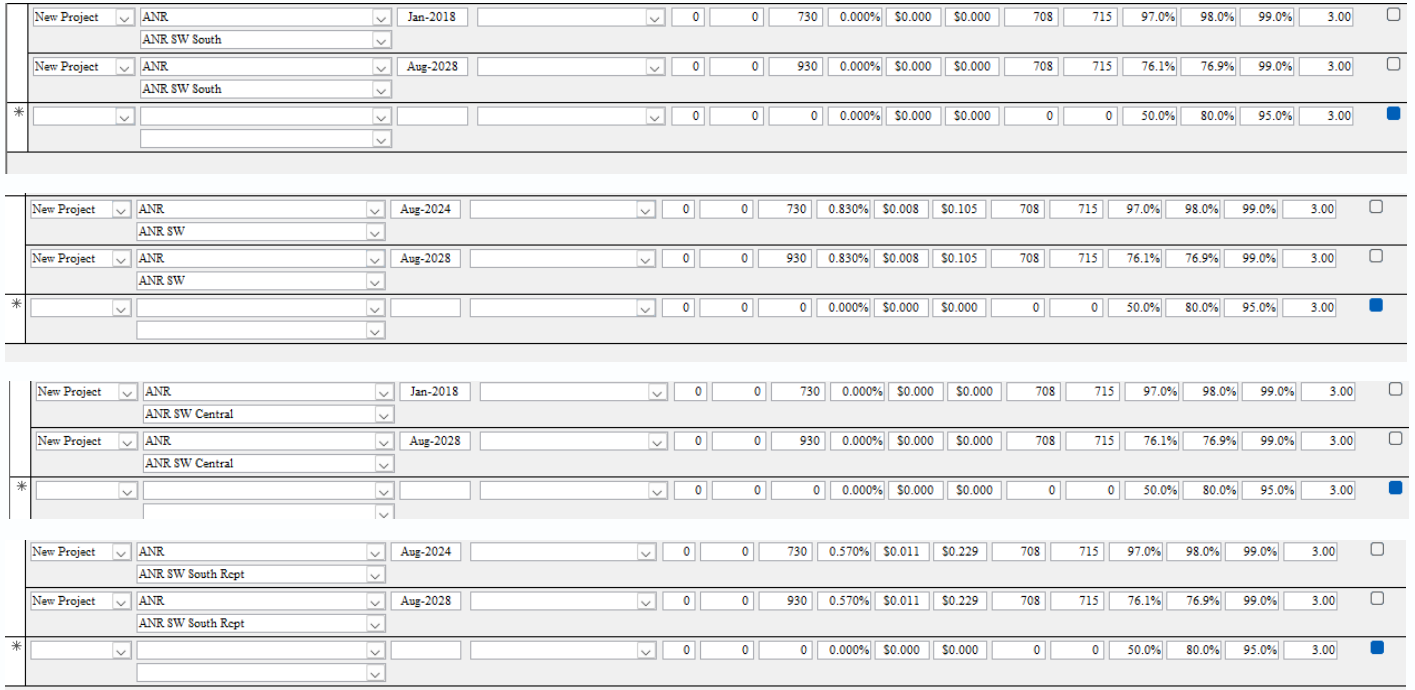
How to add rolled-in project over multiple zones:

- If it's a multi zone project then you'll need to adjust multiple Zones and Pipeline links.
- For this demonstration we'll add an expansion project that will add 200 MMcfd on ANR SW, ANR SW South, and ANR SW Central.

Adding Pipeline links:

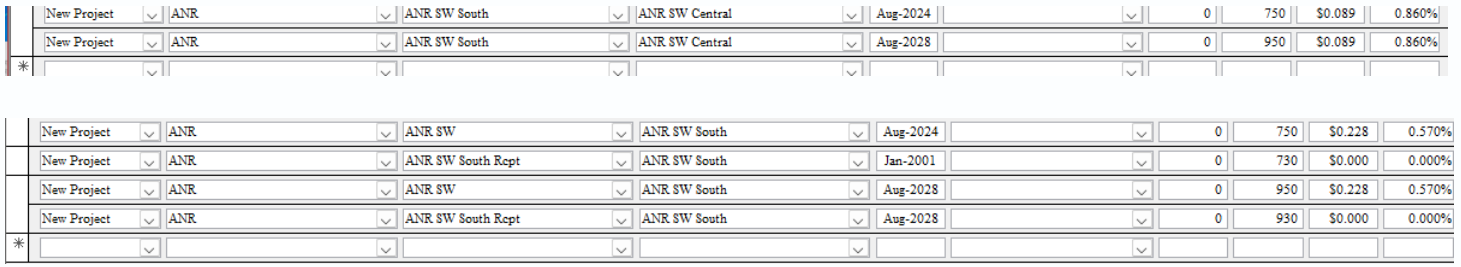
- Data Inputs-> Pipeline model-> Pipeline links.
- Do a make new.
- Use the "To Zone" combo box to filter for the zone and create a new record to account for the additional capacity each zone added.

Pipeline Zone Data



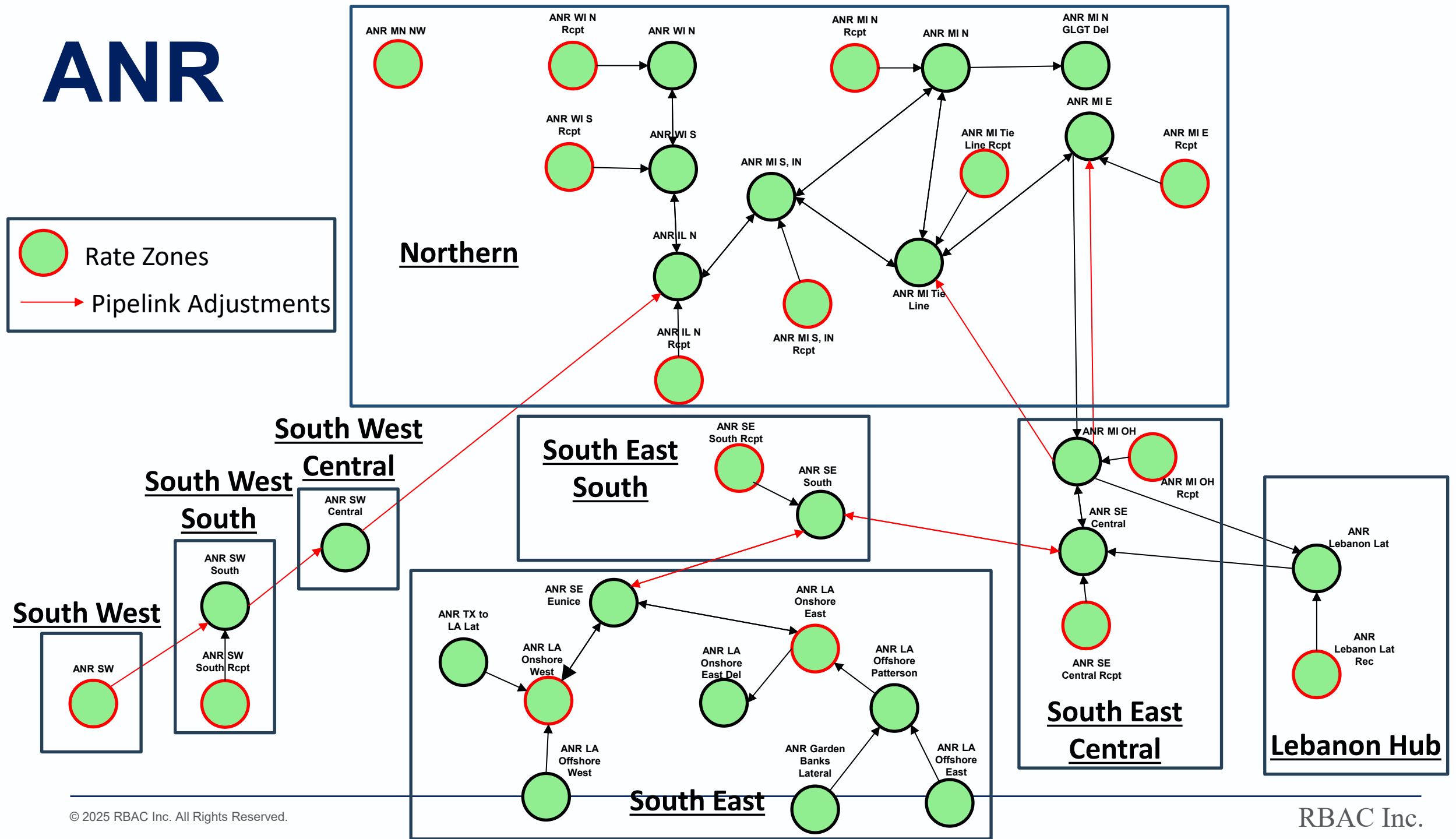
When Creating the Exp. Record keep FDQ,ZDQ /NDQ % same as before

Pipeline Links



© 2025 RBAC Inc. All Rights Reserved.

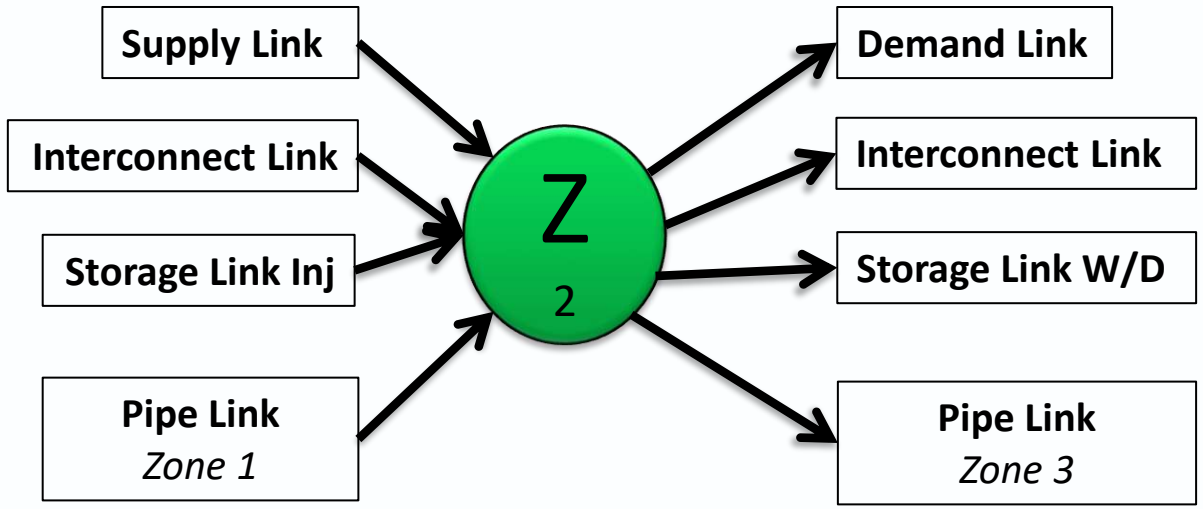
ANR



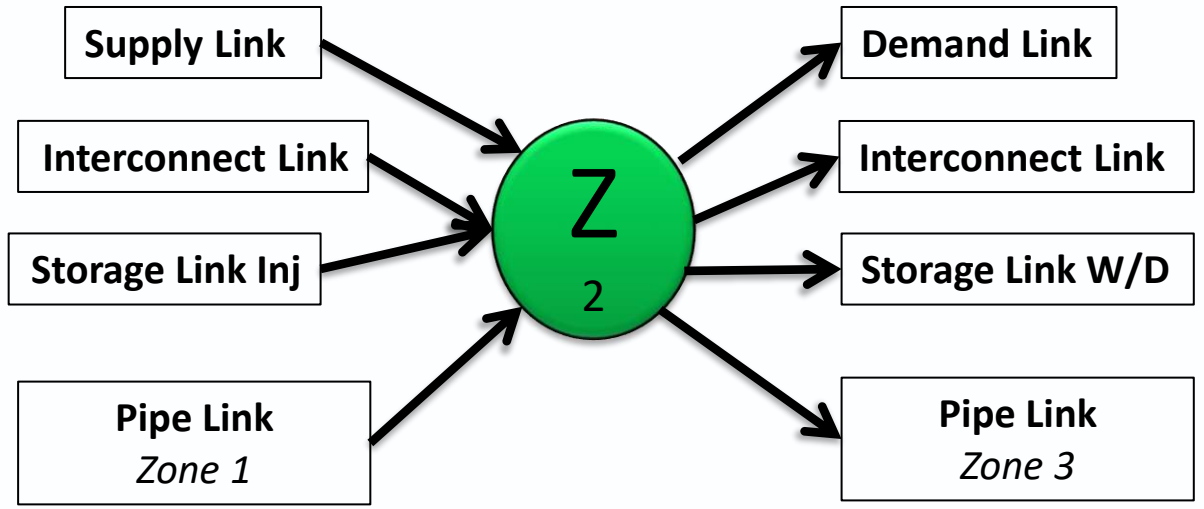
© 2025 RBAC Inc. All Rights Reserved.

Adding Incremental Projects

Original Zone



Incremental Zone (Copy of Original Zone)

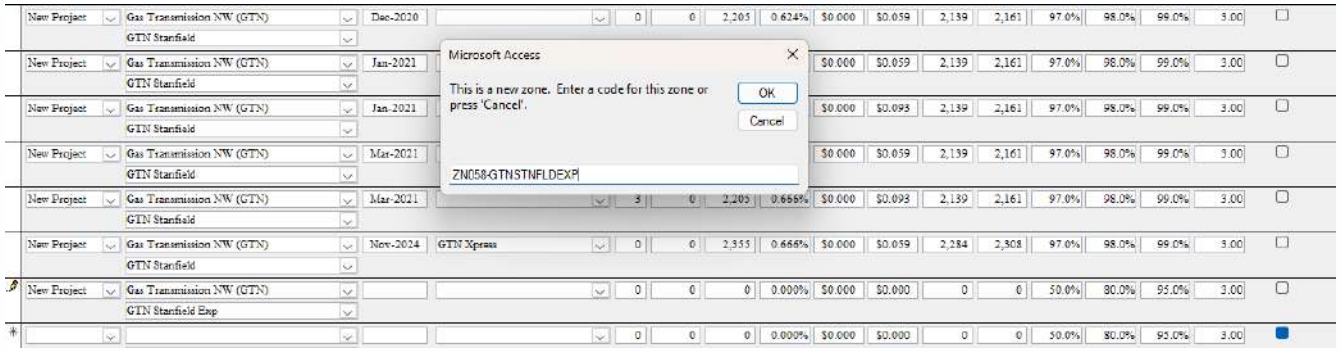


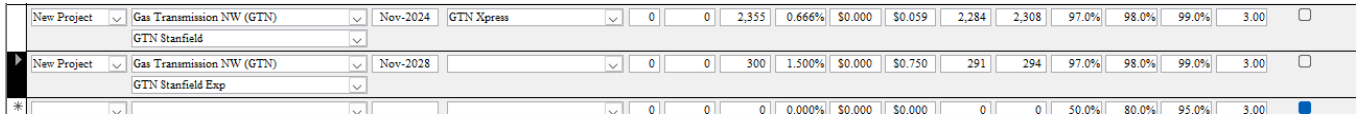
© 2025 RBAC Inc. All Rights Reserved.

Adding an Incremental Project to GTN

To add an expansion project with incremental rates.

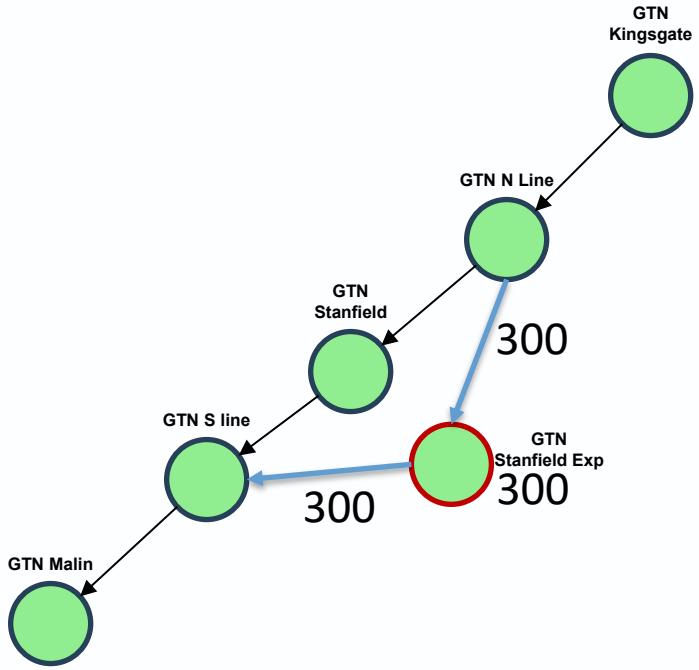
1. Create a new zone that mirrors the zone that is being expanded.
2. New Zone will have the incremental capacity that's being added, rates, and fuel that's being added.
3. Make sure the mirror zone has the same connections as the original zone.
   - I/C with Northwest Pipeline
   - Demand Link to Cascade Natural Gas Corp.
   - Pipe Link: GTN N Line -> GTN Stansfield EXP GTN Stansfield Exp -> GTN S Line





© 2025 RBAC Inc. All Rights Reserved.

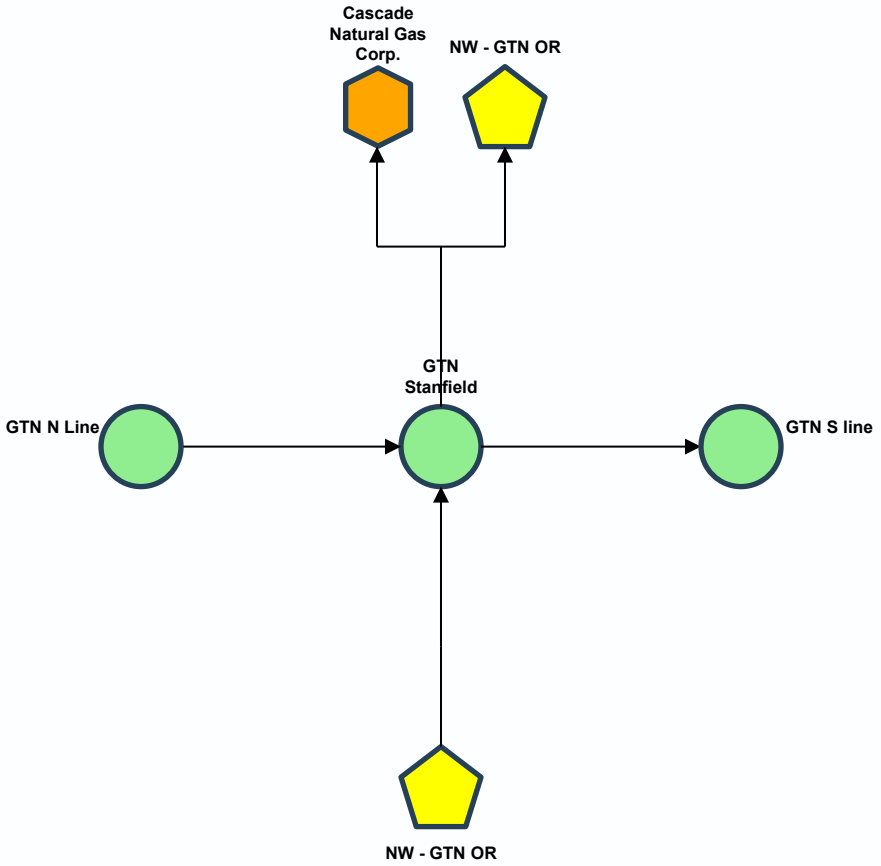
Gas Transmission NW (GTN)

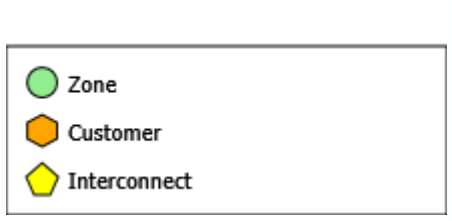


Zone

© 2025 RBAC Inc. All Rights Reserved.

Gas Transmission NW (GTN) GTN Stanfield





© 2025 RBAC Inc. All Rights Reserved.

Questions?

© 2025 RBAC Inc. All Rights Reserved.

RBAC, Inc.

www.rbac.com

(281) 506-0588

contact@rbac.com

RBAC leads the market in global and regional gas and LNG market simulation and predictive analytics in support of corporate investment and M&A strategy, ESG, risk analysis, planning, and commodity trading. Our products and expertise help companies go beyond the narratives and hype to identify the opportunities and define the risks inherent in the uncertainties of energy transition using reality and fact-based fundamentals and analysis.

We continuously enhance our market simulation systems with the latest software and computer technology while applying the best of mathematical economics to assist our clients achieve their goals. This is especially needed as we see fundamental shifts taking place in the energy industry to achieve energy transition goals and meet increasingly demanding requirements of ESG. We provide regularly scheduled updates of our simulation systems and databases to keep our clients up-to-date with the most current market information. We enhance the functionality of our systems to enable our customers to simulate the effect of new regulations or industry requirements.

Our aim is to continue to lead the market in best practices which raise the standard of market simulation, enabling rapid and flexible scenario generation, sensitivity analysis, risk-assessment and forecasting, giving clients the edge in the rapidly changing energy market.

Those using RBAC's products and services include energy industry firms and consultants, as well as government agencies involved with energy, transportation, and the environment.

RBAC's principal products include:

- **GPCM® Market Simulator for North American Gas and LNG™** focused on the North American gas & LNG markets. GPCM is the industry standard market simulator for North American gas.
- **G2M2® Market Simulator for Global Gas and LNG™** for simulating increasingly integrated gas and LNG markets worldwide.
- **Gas4Power®** for integrating gas and power market fundamentals to produce credible forecasts for both.
- **NGL-NA®** Market Simulator for North American Natural Gas Liquids

With RBAC's advanced simulation systems, licensees can create and run scenarios involving bio-methane (Renewable Natural Gas – RNG) mixed with natural gas and to assess the implications of carbon taxes and markets on supply, demand, and prices. Future enhancements will include the ability to simulate the advent of a future hydrogen market with both pure hydrogen pipelines as well as mixtures with methane. The Energy Analyst of today and the future needs these kinds of tools to conduct realistic assessments and help develop realistic strategies and plans to achieve the goals of the energy transition.

Dr. Robert Brooks founded RBAC in 1987 based on experience developing several well-respected predictive models for government and industry. He designed the first gas transportation model while getting his PhD at MIT and has led the industry ever since.

RBAC's staff includes industry-trained experts in natural gas supply and demand, transportation, storage, marketing, and trading. Our team applies its world-class expertise in mathematical modeling, statistical analysis, mathematical algorithm development, software engineering, and database design to current and future challenges, risks and opportunities in energy.

© 2023 RBAC Inc. All Rights Reserved. GPCM, GPCM Gas Market Simulation Systems, GPCM Visual Analytics , G2M2, G2M2 Global Gas Market Simulation Systems, G2M2 Visual Analytics and Gas4Power are registered trademarks of RT7K, LLC. and used with its permission.