Soluciones | | innovadoras | | en energía | |

Instituto de Investigaciones Eléctricas





CENACE

CENTRO NACIONAL DE CONTROL DE ENERGÍA





1

Launching Conference of the CIDE Electricity Policy Group (CEPG) The bases of the Mexican new electricity market: formal academic analysis and international comparison

Mexican Electricity Market - Rule 13.2

Legacy Financial Transmission Rights

M. C. José Luis Rodríguez Pliego April 14, 2016

iie.org.mx

Soluciones | | innovadoras | | en energía | |

Instituto de Investigaciones Eléctricas



Outline

Summary

Context

□ Financial Transmission Rights (FTR)

□ FTR features

Legacy FTR

□ Considerations to calculated Legacy FTR

Results

Soluciones | Instituto innovadoras | Investig en energía | Eléctric

Instituto de Investigaciones Eléctricas



Summary

The general context and features of Legacy Financial Transmission Rights (Legacy FTR) in accordance with the provisions of the Market Rules (MR) of Wholesale Electricity Market of Mexico are presented.

A brief description of the features and considerations for the calculation of allocation Legacy FTR is included.

Finally the results of allocation Legacy FTR are presented.

Soluciones | Institu innovadoras | Inves en energía | Eléctr

Instituto de Investigaciones Eléctricas



Context

MR described in Rule 13 Financial Transmission Rights (FTR) which will be provided through:

- Allocation (legacy)
- Auctions
- Funding the network expansion

The FTR give their owners the right and the obligation to collect or pay the difference resulting from the value of the components of marginal congestion of Local Marginal Prices (LMP) between a Source Node (injection) and a Sink Node (consumption).

Soluciones | Instituto de innovadoras | Investigaciones en energía | Eléctricas



Financial Transmission Rights (FTR)

- ❑ The FTR be transferable, subject to the guarantee requirements established in the MR.
- Source Node and Sink Node may be simple grid nodes, distributed nodes, or load zones.
- □ The FTR do not grant the right to use physical transmission system.
- ❑ The Market Participant (MP) can structure contracts of Electricity Coverage, which generate the same rights and obligations as the FTR issued by the CENACE, without such contracts should be subject to the procedures established by MR.

Soluciones | Instituto de innovadoras | Investigaciones en energía | Eléctricas



Financial Transmission Rights (FTR) Cont.

FTRs are balanced: the amount evaluated at the Source Node is always equal to the amount evaluated at the Sink Node.

□ FTRs do not include the cost of marginal losses.

FTRs do not include transmission access charges (regulated rates) or charges for ancillary services.

□ The value of FTRs held by MP will be calculated by CENACE for each operating day and included in the settlement for the given day.

Soluciones | Institu innovadoras | Inves en energía | Elécti

Instituto de Investigaciones Eléctricas



7

FTR features

□ Name (ID) of the holder

Source Node

Sink Node

Energy in which the FTR is valid. (In terms of 1 MWh)

Effective Period

Time Block

iie.org.mx

Soluciones innovadoras en energía | Eléctricas

Instituto de Investigaciones



Legacy FTR

Legacy FTRs will be assigned to two groups:

- Holders of Legacy Interconnection Contracts (CIL).
- Basic Service Retailers (SB)
- Only CIL holders who choose to convert their Legacy Interconnection Contracts to contracts regulated by MR will receive Legacy FTR.
- Legacy FTRs, corresponding to CIL holders that choose not to convert their Legacy Interconnection Contracts, will be assigned to Intermediation Generators.

Soluciones | Instituto de innovadoras | Investigaciones en energía | Eléctricas



Considerations to calculated Legacy FTR

Time blocks, season and average use of grid to calculate allocation Legacy FTR:

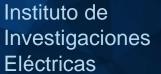
4 seasons X 6 time blocks = 24 grid configurations by year

Block 1 00:00 at 04:00 hrs.) at 04:00 at		Block 3 08:00 at 12:00 hrs.	Block 4 12:00 at 16:00 hrs.		ck 5 00 at 0 hrs.	Block 6 20:00 at 24:00 hrs.		
Season 1 January - March		Season 2 April - June		Season 3 July - September		Season 4 October - December			
Annual calculation of 2016-2035 for SEN systems (BCA, BCS, SIN)									

Average usage of grid (MWh) - Renewable up to 10 years, since Aug-12-2004 to Aug-11-2014

Average usage of grid (MWh) - CIL and SB between Aug-12-2012 and Aug-11-2014

Soluciones | Instituto innovadoras | Investig en energía | Eléctrica





Results

□ Preliminary report of Allocation of Feasible Legacy FTRs (example data).

AÑO TEMPORADA BLOQUE CLV_SISTEMA TENEDOR_DFT CLV_SUBCUENTA CLV_NODOD_ORIGEN CLV_NODOD_DESTINO DFT_ENE_HR FECHA_INICIAL 2016 1 1 BCA B001 B001002 201611B001NDI 201611B001NDE 988 01/01/2016 2016 1 1 BCA I001 I001713 2016111001NDI 2016111001NDE 980 01/01/2016 2016 1 2 BCA B001 B001002 201612B001NDI 2016111001NDE 980 01/01/2016 2016 1 2 BCA B001 B001002 201612B001NDI 201612B001NDE 980 01/01/2016 2016 1 2 BCA B001 B001002 201612B001NDI 201612B001NDE 980 01/01/2016 2016 1 2 BCA B001 B001002 201612B001NDI 201612B001NDE 980 01/01/2016 2016 1 0 1001713 201612I001NDI 201612I001NDE 3 01/01/2016	31/03/2016 31/03/2016 31/03/2016
2016 1 1 BCA IO01 IO01713 201611I001NDI 201611I001NDE 3 01/01/2016 2016 1 2 BCA B001 B001002 201612B001NDI 201612B001NDE 980 01/01/2016	31/03/2016 31/03/2016
2016 1 2 BCA B001 B001002 201612B001NDE 980 01/01/2016	31/03/2016
	31/03/2016
	01,00,2010
2016 Effective Period B001 B001002 201613B001NDI 201613B001NDE 986 01/01/2016	31/03/2016
2016 1001 1001713 2016131001NDI 2016131001NDI	31/03/2016
2016 1 A BCA BOOL BOOLOOO 2015148001NDI ID of Sink Node	31/03/2016
ID of Source Node (Distributed NodeP of Load)	31/03/2016
	31/03/2016
2016 1 (Distributed NodeP of Injection) 11NDI 2016151001 3 01/01/2016	31/03/2016
2016 1 6 BCA BUUI BUUIDOL 201616B001NDI 201616B001 1020 01/01/2016	
TENEDOR DET J CLV SUBCUENTA - CLV NODOD ORIGEN - CLV NODOD DESTINO - DET ENE HI	2 🚽 1/03/2016
	0/06/2016
2016 B001 B001002 201611B001NDI 201611B001NDE	988 0/06/2016
2016 2016 1001 1001713 2016111001NDI 2016111001NDE	3 0/06/2016
2016	0/06/2016
2016 2 3 BCA B001 B001002 201623B001NDE 1023 01 16	,,
2016 2 3 BCA 1001 1001713 2016231001NDI 2016231001NDE	30/06/2016
2016 2 4 BCA B001 B001002 201624B001NDI 201624B001NDE Feasible Legacy FTR	S ^{30/06/2016}
2016 2 4 BCA 1001 1001713 2016241001NDI 2016241001NDE	30/06/2016

Soluciones | Institute innovadoras | Investig en energía | Eléctric

Instituto de Investigaciones Eléctricas



Results

Preliminary report of distributed nodes participation factor (example data).

AÑO 🔽	TEMPORADA 🔻	BLOOUE 🔻	ID_DFT 🔻	CLV_SISTEMA 🔻	CLV_NODOD 🔻		FACTOR PART	
2016	1	1	201611B001	BCA	201611B001NDI	07 CIP-U01		2.02341E-05
2016	1	1	201611B001	BCA	201611B001NDI	07 CPC-U10		0.009785361
2016	1	1	201611B001	BCA	201611B001NDI	07 CPC-U11		0.023162464
2016	1	1	201611B001	BCA	20161	or one we	0.02661094	
2016	1	1	201611B001	BCA	20101	The sum of the participation factors of each Distributed		
							inputed	
					Noder	o is one		
2016	1	1	201611B001	BCA	201611B001NDE	ENSENADA		0.106079828
2016	1	1	201611B001	BCA	201611B001NDE	MEXICALI		0.356015867
2016	1	1	201611B001	BCA	201611B001NDE	SAN LUIS		0.087931241
2016	1	1	201611B001	вса	201611B001NDE	TIJUANA		0.449973063

Soluciones | I innovadoras | I en energía | I

Instituto de Investigaciones Eléctricas



Thanks for your attention!

jose.luis.rodriguez@iie.org.mx