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Consolidated Edison Company of New York, Inc.

Rider X - Workpapers

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Backbone/Spur Route Rate Calculation

Formula based on FCC "Reconsideration Order", Appendix F-2, adopted May 22, 2001

Rate = (1 / number of innerduct) X (Net Conduit Investment / Total System Conduit Footage) X Carrying Charge

Where;

			Information Source
Net Conduit Investment	(A)	3,101,219,915	Schedule 1, page 2 of 5
Carrying Charge	(B)	31.44%	Schedule 1, page 4 of 5
Total System Conduit Footage	(C)	135,025,780	Schedule 1, page 5 of 5
Rate per Foot of Innerduct (Existing Conduit)		= (1 / Number of Innerducts) X (A / C) X B	
Average Innerduct per Duct		2.94	Schedule 1, page 5 of 5
Rate per Foot of Innerduct (Existing Conduit)		**$2.4559**	Annual Rate

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Net Conduit Investment Calculation

			Information Source
Gross Conduit Investment, Acct. 366	$	5,186,449,576	PSC Annual Report, p. 207, line 68, col g
Less Accumulated Depreciation, Acct. 366		1,296,075,077	Schedule 1, page 3 of 5
Less ADIT, Conduit		789,154,584	Schedule 1, page 3 of 5
Net Conduit Investment	$	3,101,219,915	

ADIT & Accumulated Depreciation

Formula based on FCC "Reconsideration Order", Appendix F-2, adopted May 22, 2001

ADIT
Accounts 366, 367, 369

ADIT (366, 367, 369) = [Gross Conduit Investment (Account 366, 367, or 369) / Total Gross Plant (electric)] X (Total ADIT Account 190, electric)

Given:				Information Source
Gross Conduit Investment, Account 366		A	5,186,449,576	PSC Annual Report, p. 207, line 68, col g
Gross UG Conductors and Devices Investment, Account 367		B	7,957,638,356	PSC Annual Report, p. 207, line 69, col g
Gross Services Conduit Investment, Account 369		C	933,444,919	PowerPlant CPR
Total Gross Plant, electric		D	34,150,184,069	PSC Annual Report, p. 200, line 8, col c
		E	5,196,189,398	Acct (281, 282, 283) - 190
Then:				
ADIT, conduit, Account 366	= (A / D) X E		789,154,584	
ADIT, UG Conductors and Devices, Account 367	= (B / D) X E		1,210,810,342	
ADIT, services, Account 369	= (C / D) X E		142,030,174	
			2,141,995,100	

Accumulated Depreciation
Accounts 366, 367, 369

				Information Source
Electric Plant				
Accumulated Depreciation, Plant		F	8,534,008,054	PSC Annual Report, p. 200, line 22, col c
Gross Plant Investment		G	34,150,184,069	PSC Annual Report, p. 200, line 8, col c
Plant Depreciation Ratio, overall	= (F / G)		0.25	
Conduit, Account 366				
Gross Conduit Investment		H	5,186,449,576	PSC Annual Report, p. 207, line 68, col g
Plant Depreciation Ratio		I	0.25	
Accumulated Depreciation, Conduit	= (H X I)		1,296,075,077	
Underground Conductors and Devices, Account 367				
Gross UG Conductors and Devices Investment		J	7,957,638,356	PSC Annual Report, p. 207, line 69, col g
Plant Depreciation Ratio		K	0.25	
Accumulated Depreciation	= (J X K)		1,988,585,177	
Services, Account 369				
Gross Services Conduit Investment		L	933,444,919	PowerPlant CPR
Plant Depreciation Ratio		M	0.25	
Accumulated Depreciation, services	= (L X M)		233,264,525	

BACKBONE / SPUR Carrying Charge

Formula based on FCC "Reconsideration Order", Appendix F-2, adopted May 22, 2001

PSC 366 Carrying Charge

A) Administrative Element = Total A&G / (Gross plant - Depreciation - ADIT)

		Information Source
Total A&G	599,272,993	PSC Annual Report, p. 323, line 205, col b
Gross Plant Investment, electric	34,150,184,069	PSC Annual Report, p. 200, line 8, col c
Accumulated Depreciation, plant	8,534,008,054	PSC Annual Report, p. 200, line 22, col c
	5,196,189,398	Acct (281, 282, 283) - 190
Administrative Element	**2.93%**	

B) Maintenance Element = Account 594 / [(Book Cost 366+367+369) - (Depreciation 366+367+369) - (ADIT 366+367+369)]

Account 594	213,838,589	PSC Annual Report, p. 322, line 157 col b
Conduit Investment		
Book Cost, 366	5,186,449,576	PSC Annual Report, p. 207, line 68, col g
Book Cost, 367	7,957,638,356	PSC Annual Report, p. 207, line 69, col g
Book Cost, 369	933,444,919	PowerPlant CPR
	14,077,532,851	
Conduit Depreciation		
Account 366	1,296,075,077	Schedule 1, page 3 of 5
Account 367	1,988,585,177	Schedule 1, page 3 of 5
Account 369	233,264,525	Schedule 1, page 3 of 5
	3,517,924,779	
ADIT 366	789,154,584	Schedule 1, page 3 of 5
ADIT 367	1,210,810,342	Schedule 1, page 3 of 5
ADIT 369	142,030,174	Schedule 1, page 3 of 5
	2,141,995,100	
Maintenance Element	**2.54%**	

C) Depreciation Element = (Gross Conduit Investmt, Acct. 366) / Net Conduit Investment X Depreciation rate

Gross Conduit Investment, Acct. 366	5,186,449,576	PSC Annual Report, p. 207, line 68, col g
Net Conduit Investment	3,101,219,915	Schedule 1, page 2 of 5
Depreciation Rate	2.00%	
Depreciation Element	**3.34%**	

D) Taxes Element = (Account 408.1 + 409.1 + 410.1 + 411.4 - 411.1) / (Gross Plant Inv - Depreciation - ADIT)

Account 408.1	2,184,457,011	PSC Annual Report, p. 115, line 14, col e
Account 409.1	122,540,754	
Account 410.1	3,340,892,025	PSC Annual Report, p. 115, line 17, col e
Account 411.4	(1,109,424)	PSC Annual Report, p. 115, line 19, col e
Account 411.1	3,324,549,492	PSC Annual Report, p. 115, line 18, col e
Gross Plant Inv	34,150,184,069	PSC Annual Report, p. 200, line 8, col c
Depreciation, Electric Plant	8,534,008,054	PSC Annual Report, p. 200, line 22, col c
ADIT	5,196,189,398	
Taxes Element	**11.37%**	

E) Rate of Return Element **11.25%** FCC default

Carrying Charge Rate **(A+B+C+D+E)** **31.44%**

Innerduct Footage, Account 366

Accounts 6096 & 6994 Duct size diameter	< 3"	3" - 3.5"	4" - 4.5"	5"+	Total System Footage	
Footage	486,401	25,332,044	90,428,281	18,779,054	**135,025,780**	
Number of innerduct	1	2	3	4		
Total Footage of Innerduct	**486,401**	**50,664,088**	**271,284,843**	**75,116,216**	**397,551,548**	**Total Footage of Innerduct for Backbone / Spur System**
					2.94	**Innerduct per duct, current weighted average**

Account 6096	Footage less than 3"	3 - 3.5	4" - 4.5"	5"+	
	473,761	11,216,609	65,143,811	11,165,454	
Sub-total	473,761	11,216,609	65,143,811	11,165,454	87,999,635

Account 6994	Footage less than 3"	3 - 3.5	4" - 4.5"	5"+	
	12,640	14,115,435	25,284,470	7,613,600	
Sub-total	12,640	14,115,435	25,284,470	7,613,600	47,026,145
Total					**135,025,780**

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Service Lateral Rental Rate Calculation

Rate = (1 / number of innerduct per duct) X (Net Service Investment / Total Service Footage) X Carrying Charge
Note: The weighted average number of innerduct per service duct is **1.92** from Schedule 2, page 3 of 4

Where;

			Information Source
Net Service Investment	(A)	558,150,220	Schedule 2, page 2 of 4
Carrying Charge	(B)	34.19%	Schedule 2, page 4 of 4
Total footage of duct	(C)	18,978,059	Acct. 369, PowerPlant CPR , Acct 369200
Rate per Foot of Service Lateral		= (A / C) X B X 1 / 1.92	Schedule 2, page 3 of 4
Rate per Foot of Service Lateral		**$ 5.25**	Annual Rate

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Net Service Investment Calculation

Where;

Net Service Conduit Investment = (Gross Service Investment, Acct. 369) - (Accum. Service Depreciation) - (ADIT, services)

Book Cost, Acct. 369	$ 933,444,919	PowerPlant CPR
Less Depreciation 369	$ 233,264,525	Schedule 1, page 3 of 5
Less ADIT (services)	$ 142,030,174	Schedule 1, page 3 of 5
Net Service Conduit Investment	$558,150,220	

Service Laterals- Average Weighted Innerduct per Duct

Acct. 369

Based on Data From PowerPlant CPR and PowerPlant Equipment ledger Year-end 2022

Diameter	No. Srvcs	Feet	Innerduct	Innerduct feet
0	0	0	0	-
1.5	1,951	59,861	0	-
2	238,394	8,345,624	1	8,345,624
2.5	19,804	701,033	1	701,033
3	87,549	2,348,502	2	4,697,004
3.5	3,950	122,472	2	244,944
4	220,337	7,243,024	3	21,729,072
4.5	13	445	3	1,335
5	4,027	155,770	4	623,080
6	4	1,328	5	6,640
	576,029	**18,978,059**		**36,348,732**

Total Innerduct Footage	36,348,732
Total Service Footage	18,978,059
Average Innerduct per Service Duct	**1.92**

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Service Lateral Carrying Charge
Account 369

A) Administrative Element

Same as Backbone/Spur	**2.93%**	Schedule 1, page 4 of 5

B) Maintenance Element

Same as Backbone/Spur	**2.54%**	Schedule 1, page 4 of 5

C) Depreciation Element = (Gross Service Investment, 369) X Depreciation Rate
Net Service Investment, 369

		Information Source
Gross Service Conduit Investment, 369	933,444,919	PowerPlant CPR
Net Service Conduit Investment	558,150,220	Schedule 2, page 2 of 4
Depreciation rate, services	3.64%	
	6.09%	

D) Taxes Element

Same as Backbone/Spur	**11.37%**	Schedule 1, page 4 of 5

E) Rate of Return Element	**11.25%**	Schedule 1, page 4 of 5	, FCC Default

Carrying Charge Rate	(A+B+C+D+E)	**34.19%**

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Calculation of Rates Effective September 1, 2023

Calculation of Rental Rate for Use of Innerduct

Electric Underground Facilities

a	Rental Rate ($/ft of innerduct)	$2.4559
b	Innerduct Footage in existing duct	528,161
c	Revenue Requirement, Electric Underground Facilities (a * b)	$1,297,111

Telecommunications Underground Facilities

d	Innerduct Footage	105,382
	Calculation of Levelized Charge	
e	Telecommunications Underground Facilities Costs	$397,989
f	Levelized Carrying Charge	18.01%
g	Levelized Charge (e * f)	$71,671
	Calculation of 10% Charge on Original Book Cost	
h	Original Book Cost	$14,312,606
i	10% Charge (h * 10%)	1,431,261
j	Revenue Requirement, Telecom Underground Facilities (g + i)	$1,502,932

Calculation of Rental Rate for Use of Innerduct

k	Total Revenue Requirement (c + j)	$2,800,043
l	Footage of Innerduct in use or reserved in Electric (b)	528,161
m	Footage of Telecom Underground Facilities (d)	105,382
n	Total Footage (l + m)	633,543
o	Rental Rate for Use of Innerduct (k / n), $ Per Innerduct Foot Per Year	**$4.4197**

Calculation of Rental Rate for Telecom Manholes

	Calculation of Levelized Charge	
p	Telecom Underground Facilities Costs, with Adders	$0
q	Levelized Carrying Charge	18.01%
r	Levelized Charge (p * q)	$0
	Calculation of 10% Charge on Original Book Cost	
s	Original Book Cost	$9,296,122
t	10% Charge (s * 10%)	929,612
u	Rev Requirement, Telecom Manholes (r + t)	$929,612
v	Number of Manhole Uses	424
w	Rental Rate, $ / manhole use / year (u / v)	**$2,192**

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Tunnel Rate Calculations

Formula = (Revenue Requiremt of Unusable Space) / Number of Users + ((25% of Book Cost - Revenue Requiremt of Unusable Space) / Usable Area) X Area of Innerduct w/ hanger)

		Tunnel Crossings A	B	C
Book Cost, Year-End 2022	a	$ 9,590,731	$ 17,109,659	$ 9,505,110
25% Carrying Charge = a X 0.25	b	$ 2,397,683	$ 4,277,415	$ 2,376,277
Shaft Diameter, feet	c	10	26	18
Total Area sq footage = 3.14 X (c / 2)2	d	78.5	530.7	254.3
Usable Area = d - f	e	31.6	227.4	75.1
Common Area, See p. 2 of 2	f	46.9	303.3	179.2
Percent Unusable Area = f / d	g	59.7%	57.2%	70.5%
Revenue Requirement of Usable Area = b - j	h	$ 965,946	$ 1,832,538	$ 701,763
Cost per Sq. Ft., Usable Area = h / e	i	$ 30,544	$ 8,060	$ 9,344
Revenue Requirement of Unusable Area = b X g	j	$ 1,431,737	$ 2,444,877	$ 1,674,514
Area of innerduct with hanger, 2" x 2" space	k	0.03	0.03	0.03
Cost per innerduct = i X k	l	$ 916	$ 242	$ 280
Total Cost per innerduct or cable = (j / m) + l				
Number of Users*				
5	m	**$287,263**		
5	m		**$489,217**	
6	m			**$279,366**

* Con Edison electric is considered a separate user for each transmission voltage in a tunnel.
Con Edison Gas, Steam and communication are each considered separate users.
Each Telecom innerduct/cable is considered a user.

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Tunnel Rate Calculations

UNUSABLE SPACE CALCULATION

Tunnel Crossing A

			Total Area
Diameter	10.17 ft		
Total Area	78.5 sq-ft		78.5
Unusable/common space items in shaft			
Elevator	(5 x 2.5)/2		6.3
Landing	25% of shaft	inclusive of 1/2 elev & Maint riser	19.6
I beams	.67 x 27ft		18
Ladder	1.5 x 2		3
Maintenance riser	0		0
		unusable/common space	46.9

Tunnel Crossing B

			Total Area	
Dia	26 ft			
Total Area	530.7 sq-ft		530.7	sq-ft
Unusable/common space items in shaft				
Elevator	8.125 x 3.25		0.0	sq-ft
Landing	4.875 x 19.5	inclusive of elevator	95.1	sq-ft
I beams	(.83 x 68.25) + (.5 x 51.2)		82.485	sq-ft
Ladder	1.5 x 2		3	sq-ft
Maintenance riser			122.8	sq-ft
		unusable/common space	303.3	

Tunnel Crossing C

			Total Area	
Dia	18 ft			
Total Area	254.34 sq-ft		254.34	sq-ft
Unusable/common space items in shaft				
Elevator	0		0	sq-ft
Landing	6.25 x 20	inclusive of elevator & Maint riser	125	sq-ft
I beams	(.67 x 69.3) + (.5 x 10)		51.2	sq-ft
Ladder	1.5 x 2		3	sq-ft
Maintenance riser	0		0	sq-ft
		unusable/common space	179.2	

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River Crossings

River Crossing, D

Original book cost	649,959	A
Number of duct	7	B
Average cost per duct	$92,851	C = (A / B)
Number of Innerduct	5	D
Carrying Charge	25.00%	E
Annual Rate	**$4,643**	F = (C/D)*E

River Crossing, E

Original book cost	80,147	A
Number of duct	2	B
Average cost per duct	$40,073	C = (A / B)
Number of Innerduct	7	D
Carrying Charge	25.00%	E
Annual Rate	**$1,431**	F = (C/D)*E

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Manhole POE to Enter/Exit Company Facilities

Formula = (Carrying Chg. of an Elec. MH) x (Avg. Original Bk. Cost of an Elec. MH)
(Avg. No. of POE's in an Elec. MH)

		Formula	
Average Original Book Cost of Electric Manhole	a		$6,025.00
Carrying Charge of an Electric Manhole	b		25%
Average Number of POE's in an Electric Manhole	c		16
Rate		(a X b)/c	**$94.1406**

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Transmission Tower Attachments

Formula = (Book Cost, facility) X (Number of Pot. Telecom Attachments per Tower) X (Carrying Charge)
Total Potential Attachments per Tower

"K" Line

Book Cost, entire facility- towers and fixtures only	a		$32,204,501
Potential Number of Telecom Attachments (used) per Tower	b		1
Carrying Charge	c		25.00%
Total Potential Attachments* per Tower	d		16
Rate, entire facility	e	(a x b xc)/d	$503,195.33
Number of Towers	f		384
Rate/Tower	g	g = (e / f)	$1,310.40
Usable Space Factor	h		80.00%
Attachment/Tower	i	i = g * h	**$1,048**

"E" Line

Book Cost, entire facility- towers and fixtures only	a		$15,549,237
Potential Number of Telecom Attachments (used) per Tower	b		1
Carrying Charge	c		25.00%
Total Potential Attachments* per Tower	d		16
Rate, entire facility	e	(a x b xc)/d	$242,956.83
Number of Towers	f		144
Rate/Tower	g	g = (e / f)	$1,687.20
Usable Space Factor	h		80.00%
Attachment/Tower	i	i = g * h	**$1,350**

* 16 Total Potential Attachments

2 pair of 3 phase conductors		6
2 Circuits	X 2	12
2 Static lines		2
		14
Potential Telecom Attachments		2
Total Potential Attachments		**16**

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Rights-of-Way

Findings based on Real Estate Appraisal study of February 27, 1997 with 3% annual escalation

Aerial:	$0.9961	per foot	1998	0.4900	1.03
			1999	0.5047	
			2000	0.5198	
			2001	0.5354	
			2002	0.5515	
			2003	0.5680	
			2004	0.5851	
			2005	0.6026	
			2006	0.6207	
			2007	0.6393	
			2008	0.6585	
			2009	0.6783	
			2010	0.6986	
			2011	0.7196	
			2012	0.7412	
			2013	0.7634	
			2014	0.7863	
			2015	0.8099	
			2016	0.8342	
			2017	0.8592	
			2018	0.8850	
			2019	0.9115	
			2020	0.9389	
			2021	0.9671	
			2022	0.9961	
Underground:	$2.0328	per foot			1.03
			1998	1.0000	
			1999	1.0300	
			2000	1.0609	
			2001	1.0927	
			2002	1.1255	
			2003	1.1593	
			2004	1.1941	
			2005	1.2299	
			2006	1.2668	
			2007	1.3048	
			2008	1.3439	
			2009	1.3842	
			2010	1.4258	
			2011	1.4685	
			2012	1.5126	
			2013	1.5580	
			2014	1.6047	
			2015	1.6528	
			2016	1.7024	
			2017	1.7535	
			2018	1.8061	
			2019	1.8603	
			2020	1.9161	
			2021	1.9736	
			2022	2.0328	

Consolidated Edison Company of New York, Inc.

Rider X

Calculation of Average Cost of a Telecom Manhole

Manhole Construction Costs Through May 2003 (incl adders)	$9,100,368
Manhole Costs June through October 2003	51,660
Telergy Manholes Occupied by CEC through Oct. 2003	531,505
Manhole Costs Nov. 2003 through Jan. 2004	51,656
Subtotal	$9,735,189
Customer Contributions to Manhole Depreciation	(1,330,196)
Manhole Costs Net of Depreciation Recoveries	$8,404,993
CIAC Tax	1,284,332
Manhole Cost Including CIAC	$9,689,325
Add Back Depreciation Recoveries	1,330,196
Subtotal	$11,019,521
Manhole Costs Feb. 2004 - June 2004	$74,800
Manhole Costs July 2004 - June 2005	$41,379
Manhole Costs July 2005 - June 2006	$104,669
Manhole Costs July 2006 - June 2007	$30,716
Manhole Costs July 2007 - June 2008	$0
Manhole Costs July 2008 - June 2009	$0
Manhole Costs July 2009 - June 2010	$0
Manhole Costs July 2010 - June 2011	$60,987
Manhole Costs July 2011 - June 2012	$95,344
Manhole Costs July 2012 - June 2013	$0
Manhole Costs July 2013 - June 2014	$152,433
Manhole Costs July 2014 - June 2015	$0
Manhole Costs July 2015 - June 2016	0
Manhole Costs July 2016 - June 2017	0
Manhole Costs July 2017 - June 2018	0
Manhole Costs July 2018 - June 2019	0
Manhole Costs July 2019 - June 2020	0
Manhole Costs July 2020 - June 2021	0
Manhole Costs July 2021 - June 2022	0
Manhole Costs July 2022 - June 2023	0
Total Manhole Costs	$11,579,848
Number of Telecom Manholes	285
Average Cost Per Telecom Manhole	**$40,631**

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Unused Telecom Manhole Average Cost

	Number of Manholes	Total Costs	Average Cost Per Manhole
Telergy Manholes	83	$2,925,641	**$35,249**