

BEFORE THE
STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

In the Matter of
National Fuel Gas Distribution Corp.

Case 16-G-0257

August 2016

Prepared Exhibits of:

Staff Gas Rates Panel

Aric J. Rider
Utility Supervisor

Michael C. Tushaj
Utility Engineer 1

Scott McAdoo
Junior Engineer

Office of Electric, Gas and Water
State of New York
Department of Public Service
Three Empire State Plaza
Albany, New York 12223-1350

<u>Item</u>	<u>PDF (page #)</u>
<u>Exhibit__(SGRP-1): Interrogatories Used in Testimony</u>	<u>3</u>
<u>Exhibit__(SGRP-2): Customer Trend Graphs</u>	<u>59</u>
<u>Exhibit__(SGRP-3): Margin Outline</u>	<u>62</u>
<u>Exhibit__(SGRP-4): Actual, Budget, and Forecast Capital Investment Graphs and Table</u>	<u>63</u>
<u>Exhibit__(SGRP-5): Historic and Forecasted Leak Prone Pipe Reduction Graph</u>	<u>67</u>
<u>Exhibit__(SGRP-6): Summary of Gas Net Plant In Service and Depreciation Expense</u>	<u>68</u>
<u>Exhibit__(SGRP-7): Depreciation Accrual Rates</u>	<u>70</u>
<u>Exhibit__(SGRP-8): Revenue Allocation</u>	<u>71</u>
<u>Exhibit__(SGRP-9): Rate Design</u>	<u>72</u>
<u>Exhibit__(SGRP-10): Customer Bill Impacts</u>	<u>75</u>

Company Response to Interrogatory	Exhibit__(SGRP-1) Page No.
DPS-33*	2
UFR-74	3
UFR-76*	4
UFR-66	5
DPS-57*	8
UFR-84*	10
UFR-83	11
DPS-95*	13
DPS-144	18
DPS-65*	28
DPS-93*	31
DPS-73	33
DPS-158	36
DPS-87*	38
DPS-92*	40
DPS-143	43
UFR-103*	49
DPS-207*	50
UFR-102	55

* Denotes a response which was voluminous or contained Excel files which could not be adapted to PDF format. These are available upon request.

DPS- 33
Page 1 of 1
Witness:Friedrich-Alf

NATIONAL FUEL GAS DISTRIBUTION CORPORATION
NEW YORK DIVISION
RESPONSE TO DEPARTMENT OF PUBLIC SERVICE
REQUEST FOR INFORMATION
CASE 16-G-0257

Question

Re: Pre-Filed IRs, Testimonial Exhibits

1. Provide each pre-filed standard interrogatory response and supporting calculations in Word, Excel, or other original format with all formulae intact.
2. Provide all pre-filed Company Testimony exhibits in Word, Excel, or other original format with all formulae intact.

Response

Excel files have been posted as of June 7, 2016.
Excel files have been posted as of June 9, 2016.
A second set of excel files have been posted as of June 9, 2016.
Excel files have been posted as of June 13, 2016.
Excel files have been posted as of June 16, 2016.

This response will be updated as available.

The Company is providing an Excel document for verification of the Company's presentation with full reservation of Company rights, including but not limited to Company's intellectual property rights. Please be advised that any alterations to the document including any modifications to inputs, formulae, etc. are the sole responsibility of that party and the Company will not attest to the validity or authenticity of altered information or formulae.

UFR-74
Page 1 of 1
Witness: Barber

NATIONAL FUEL GAS DISTRIBUTION CORPORATION
NEW YORK DIVISION
RESPONSE TO UTILITY FILING REQUIREMENTS
REQUEST FOR INFORMATION
CASE 16-G-

Question

74. Provide an explanation of how the results of the first rate year and subsequent two rate years sales and customer forecasting methodologies were inputted into the revenue price out model, including a description of the derivation of billing data by usage block in each service class, sub class, or customer class as applicable that was used in the model (i.e., sales data by block, number of bills).

Response

The Company's OGIVE System is used to distribute the total volumes into each block. The OGIVE System employs a bill frequency analysis in determining the distribution of bill, by size and number, for a particular group of customers. The system captures bill frequency data from the Company's mainframe on a monthly basis. The system then takes the total forecasted monthly consumption and allocates the volumes into the various blocks of consumption.

UFR-76
Page 1 of 1
Witness: Barber

NATIONAL FUEL GAS DISTRIBUTION CORPORATION
NEW YORK DIVISION
RESPONSE TO UTILITY FILING REQUIREMENTS
REQUEST FOR INFORMATION
CASE 16-G-

Question

76. Provide a bill frequency analysis for each month in the historic test period for each present rate schedule and for each proposed rate schedule.

Response

See attached. Attachment 1 shows the bill frequency analysis for the historic test year – the twelve months ended December 31, 2015. Attachment 2 shows the the bill frequency analysis for the Rate Year – the twelve months ended March 31, 2018. The forecasted Rate Year used volumes by block from the Company's 2015 Master Estimate. The Master Estimate used the bill frequency analysis for the twelve months ended April 2015, the most recent data available at the time of completion. The information in both attachments is presented by rate class, by calendar month.

UFR-66
Page 1 of 1
Witness: Barber

NATIONAL FUEL GAS DISTRIBUTION CORPORATION
NEW YORK DIVISION
RESPONSE TO UTILITY FILING REQUIREMENTS
REQUEST FOR INFORMATION
CASE 16-G-

Question

66. Provide a reconciliation of monthly customer counts to monthly bill counts by service class, sub class or customer class in the historic test year and provide an explanation with supporting documentation regarding the causes of any differences.

Response

See attached.

	1/31/15	2/28/15	3/31/15	4/30/15	5/31/15	6/30/15	7/31/15	8/31/15	9/30/15	10/31/15	11/30/15	12/31/15	Total
SC-1													
Cycle Bills	317,585	318,014	316,749	314,283	310,359	307,488	307,599	309,020	310,600	313,660	317,213	320,544	3,763,114
Finals & Initials	11,051	10,532	11,351	12,371	15,590	16,004	15,854	16,589	16,293	15,382	15,619	15,147	171,783
Converting Customers	95	115	108	103	130	107	124	126	12	23	61	29	1,033
1/2 F&I and Converting Customers	5,573	5,324	5,730	6,237	7,860	8,056	7,989	8,358	8,153	7,703	7,840	7,588	86,408
Customer Count	323,158	323,338	322,479	320,520	318,219	315,544	315,588	317,378	318,753	321,363	325,053	328,132	3,849,522
SC-2 HRAS													
Cycle Bills	48,231	49,535	51,423	53,044	53,374	53,006	52,594	51,229	50,053	48,985	48,409	47,771	607,654
Finals & Initials	785	762	813	1,705	2,508	2,252	1,872	1,902	1,589	1,293	1,061	834	17,376
Converting Customers	100	135	106	126	175	115	79	79	1	1	1	-	947
1/2 F&I and Converting Customers	443	449	460	916	1,342	1,184	991	991	795	647	531	417	9,162
Customer Count	48,674	49,984	51,883	53,960	54,716	54,190	53,585	52,220	50,848	49,632	48,940	48,188	616,816
SC-2A EBD PTR													
Cycle Bills	112	112	111	110	107	107	107	106	105	104	105	104	1,290
Finals & Initials	-	-	1	4	-	-	-	1	2	-	-	-	9
Converting Customers	-	-	-	-	-	-	-	-	-	-	-	-	-
1/2 F&I and Converting Customers	-	-	1	2	-	-	-	1	1	-	-	1	5
Customer Count	112	112	112	112	107	107	107	107	106	104	105	105	1,295
SC-2B LICAAP													
Cycle Bills	11,948	11,870	11,857	11,795	11,490	11,226	11,002	10,719	10,537	10,411	10,466	10,469	133,790
Finals & Initials	363	333	348	549	792	631	580	612	518	443	341	358	5,868
Converting Customers	6	6	1	6	9	10	7	6	-	-	-	-	51
1/2 F&I and Converting Customers	185	170	175	278	401	321	294	309	259	222	171	179	2,960
Customer Count	12,133	12,040	12,032	12,073	11,891	11,547	11,296	11,028	10,796	10,633	10,637	10,648	136,750
SC-3													
Cycle Bills	17,981	18,257	18,397	18,381	17,890	17,891	17,589	17,577	17,454	17,458	17,219	18,135	214,729
Finals & Initials	840	714	678	751	1,256	632	637	589	558	756	926	913	9,250
Converting Customers	13	11	6	6	7	3	7	9	6	11	2	25	106
1/2 F&I and Converting Customers	427	363	342	379	632	318	322	299	282	384	464	469	4,678
Customer Count	18,408	18,620	18,739	18,760	18,522	18,209	17,911	17,876	17,736	17,842	18,183	18,604	219,407
SC-1 Aggregated Transportation													
Cycle Bills	80,512	80,535	80,043	79,739	78,472	77,794	77,448	77,064	76,846	81,259	81,363	81,196	952,271
Finals & Initials	375	377	461	702	1,087	988	870	963	824	938	883	799	9,267
Converting Customers	-	-	-	-	-	-	-	-	-	-	-	-	-
1/2 F&I and Converting Customers	188	189	231	351	544	494	435	482	412	469	442	400	4,634
Customer Count	80,700	80,724	80,274	80,090	79,016	78,288	77,883	77,546	77,258	81,728	81,805	81,596	956,905
SC-3 Transportation													
Cycle Bills	16,039	16,000	15,986	16,026	15,948	15,884	15,944	15,878	15,850	15,850	15,829	15,875	191,109
Finals & Initials	144	100	108	101	144	128	82	85	87	101	66	86	1,232
Converting Customers	-	-	-	-	-	-	-	-	-	-	-	-	-
1/2 F&I and Converting Customers	72	50	54	51	72	64	41	43	44	51	33	43	616
Customer Count	16,111	16,050	16,040	16,077	16,020	15,948	15,985	15,921	15,894	15,901	15,862	15,918	191,725
TC 1.1 MMT													
Cycle Bills	696	696	684	689	687	682	682	683	680	682	682	685	8,228
Finals & Initials	6	4	-	1	2	2	1	4	-	1	2	1	24
Converting Customers	-	-	-	-	-	-	-	-	-	-	-	-	-
1/2 F&I and Converting Customers	3	2	-	1	1	1	1	2	-	1	1	1	12
Customer Count	699	698	684	690	688	683	683	685	680	683	683	686	8,240
TC 1.1 DMT													
Cycle Bills	11	11	11	11	11	11	11	11	11	11	11	11	131
Finals & Initials	-	-	-	-	-	-	-	-	-	-	-	-	-
Converting Customers	-	-	-	-	-	-	-	-	-	-	-	-	-
1/2 F&I and Converting Customers	-	-	-	-	-	-	-	-	-	-	-	-	-
Customer Count	11	11	11	11	11	11	11	11	11	11	11	11	131
TC 2.0 MMT													
Cycle Bills	97	95	98	95	95	93	94	94	94	94	94	96	1,139
Finals & Initials	-	-	-	-	1	2	-	-	-	-	-	-	3
Converting Customers	-	-	-	-	-	-	-	-	-	-	-	-	-
1/2 F&I and Converting Customers	-	-	-	-	-	-	-	-	-	-	-	-	-
Customer Count	97	95	98	95	96	94	94	94	94	94	94	96	1,141

	1/31/15	2/28/15	3/31/15	4/30/15	5/31/15	6/30/15	7/31/15	8/31/15	9/30/15	10/31/15	11/30/15	12/31/15	Total
TC 2.0 DMT													
Cycle Bills	4	4	4	4	4	4	4	4	4	4	4	4	48
Finals & Initials	-	-	-	-	-	-	-	-	-	-	-	-	-
Converting Customers	-	-	-	-	-	-	-	-	-	-	-	-	-
1/2 F&I and Converting Customers	-	-	-	-	-	-	-	-	-	-	-	-	-
Customer Count	4	4	4	4	4	4	4	4	4	4	4	4	48
TC 3.0 MMT													
Cycle Bills	35	35	35	38	38	37	37	37	37	38	39	38	444
Finals & Initials	-	-	-	-	-	-	-	-	-	-	-	-	-
Converting Customers	-	-	-	-	-	-	-	-	-	-	-	-	-
1/2 F&I and Converting Customers	-	-	-	-	-	-	-	-	-	-	-	-	-
Customer Count	35	35	35	38	38	37	37	37	37	38	39	38	444
TC 3.0 DMT													
Cycle Bills	14	14	14	15	14	15	15	15	15	15	15	15	176
Finals & Initials	-	-	-	-	-	-	-	-	-	-	-	-	-
Converting Customers	-	-	-	-	-	-	-	-	-	-	-	-	-
1/2 F&I and Converting Customers	-	-	-	-	-	-	-	-	-	-	-	-	-
Customer Count	14	14	14	15	14	15	15	15	15	15	15	15	176
TC 4.0 MMT													
Cycle Bills	19	19	19	19	19	19	18	18	18	18	18	18	222
Finals & Initials	-	-	-	-	-	-	-	-	-	-	-	-	-
Converting Customers	-	-	-	-	-	-	-	-	-	-	-	-	-
1/2 F&I and Converting Customers	-	-	-	-	-	-	-	-	-	-	-	-	-
Customer Count	19	19	19	19	19	19	18	18	18	18	18	18	222
TC 4.0 DMT													
Cycle Bills	6	6	6	5	5	5	5	5	5	5	5	5	63
Finals & Initials	-	-	-	-	-	-	-	-	-	-	-	-	-
Converting Customers	-	-	-	-	-	-	-	-	-	-	-	-	-
1/2 F&I and Converting Customers	-	-	-	-	-	-	-	-	-	-	-	-	-
Customer Count	6	6	6	5	5	5	5	5	5	5	5	5	63
TC 4.1 MMT													
Cycle Bills	9	9	9	9	9	10	10	10	10	10	9	10	114
Finals & Initials	-	-	-	-	-	-	-	-	-	-	-	-	-
Converting Customers	-	-	-	-	-	-	-	-	-	-	-	-	-
1/2 F&I and Converting Customers	-	-	-	-	-	-	-	-	-	-	-	-	-
Customer Count	9	9	9	9	9	10	10	10	10	10	9	10	114
TC 4.1 DMT													
Cycle Bills	1	1	1	1	1	1	1	1	1	1	1	1	12
Finals & Initials	-	-	-	-	-	-	-	-	-	-	-	-	-
Converting Customers	-	-	-	-	-	-	-	-	-	-	-	-	-
1/2 F&I and Converting Customers	-	-	-	-	-	-	-	-	-	-	-	-	-
Customer Count	1	1	1	1	1	1	1	1	1	1	1	1	12
SC-2 HRAS TRANS													
Cycle Bills	14,593	14,786	15,057	15,435	15,434	15,342	15,308	15,220	15,043	14,904	14,921	14,875	180,918
Finals & Initials	144	158	190	423	700	654	492	515	435	334	272	236	4,553
Converting Customers	-	-	-	-	-	-	-	-	-	-	-	-	-
1/2 F&I and Converting Customers	72	79	95	212	350	327	246	258	218	167	136	118	2,277
Customer Count	14,665	14,865	15,152	15,647	15,784	15,669	15,554	15,478	15,261	15,071	15,057	14,993	183,195
SC-1 DSS Transportation													
Cycle Bills	4,593	4,733	4,782	4,787	4,914	5,070	5,091	5,039	4,306	88	6	-	43,408
Finals & Initials	224	222	199	231	330	291	313	312	202	9	1	-	2,334
Converting Customers	-	-	-	-	-	-	-	-	-	-	-	-	-
1/2 F&I and Converting Customers	112	111	100	116	165	146	157	156	101	5	1	-	1,167
Customer Count	4,705	4,844	4,882	4,903	5,079	5,216	5,248	5,195	4,407	93	7	-	44,576
SC-16													
Cycle Bills	1	1	1	1	1	1	1	1	1	1	1	1	12
Finals & Initials	-	-	-	-	-	-	-	-	-	-	-	-	-
Converting Customers	-	-	-	-	-	-	-	-	-	-	-	-	-
1/2 F&I and Converting Customers	-	-	-	-	-	-	-	-	-	-	-	-	-
Customer Count	1	1	1	1	1	1	1	1	1	1	1	1	12

DPS- 57
Page 1 of 2
Witness: Volumetric
Forecasting Panel

NATIONAL FUEL GAS DISTRIBUTION CORPORATION
NEW YORK DIVISION
RESPONSE TO DEPARTMENT OF PUBLIC SERVICE
REQUEST FOR INFORMATION
CASE 16-G-0257

Re: Forecasting and Modeling

- 1) Define a customer as identified in the sales forecast.

Provide the following, in excel format, with all links and formulae intact:

- 2) The Company's response to pre-filed IRs: URF-64, URF-66, URF-77, URF-78, and URF-79.
- 3) The forecasted sales data per month by service class, sub class, or customer class (heat, non-heat, residential, commercial, public authority and industrial) as applicable from the end of the historic test year to the beginning of the rate year (linking period), the rate year, and two additional years beyond the rate year.
- 4) The forecasted customer counts by month by service class, sub class, or customer class (heat, non-heat, residential, commercial, public authority and industrial) as applicable from the end of the historic test year to the beginning of the rate year (linking period), the rate year, and two additional years beyond the rate year.
- 5) Explain how the results of the rate year sales and customer forecasting methodologies were inputted into the revenue price out model, including a description of the derivation of billing data by usage block in each service class, sub class, or customer class as applicable that was used in the model (i.e., sales data by block, number of bills).
- 6) Provide the data inputs the Company used to run their OGIVE model, by service class, sub class or customer class as applicable.
- 7) Provide the allocation of forecasted throughput by revenue class (i.e., The Master Estimate Sheets for Residential, Commercial, Public Authority, Small and Large Industrial groups) to the various service class schedules.
- 8) Provide the load normalization reports for the calendar years beginning January 2009 to current day, by month.

Response:

- 1) A customer in the sales forecast is a ratepayer who receives a bill. For the price out of the sales forecast, the number of bills for SC 1, 2 and 3

DPS- 57
Page 2 of 2
Witness:Volumetric
Forecasting Panel

NATIONAL FUEL GAS DISTRIBUTION CORPORATION
NEW YORK DIVISION
RESPONSE TO DEPARTMENT OF PUBLIC SERVICE
REQUEST FOR INFORMATION
CASE 16-G-0257

has been reduced by one half of the final and initial bills and converting customers (retail to marketers).

2) See the response to DPS-33:

UFR	
64	Not an xls file. Refers to UFR-56. See response to DPS-33 for UFR 56.
66	See: DPS-33 (UFR-66)
77	See: DPS-33 JRB-1 Revenue Exhibits, Tabulation Worksheet
78	See: DPS-33 (UFR-78)
79	See: DPS-33 UFR-79 RDM_Filing Schedule A DPS-33 UFR-79 RDM_Filing Schedule B

- 3) See: DPS-33_Exhibit VFP-1 xls files. Also see, DPS-33 JRB-1 Revenue Exhibits.xls and DPS-33 (JRB- WP2 – RY, RY1, RY2).xls.
- 4) See: DPS-33_Exhibit VFP-2 xls files. Also see, DPS-33 JRB-1 Revenue Exhibits.xls and DPS-33 (JRB- WP2 – RY, RY1, RY2).xls.
- 5) See the Direct Testimony of Jeremy R. Barber, page 4, lines 5 through 14.
- 6) Ogive curve data is available in DPS-33 (UFR-76 Attachment 1).xls and DPS-33 (UFR-76 Attachment 2).xls
- 7) See: DPS 33 Exhibits VFP 4 through 7.
- 8) See the attached: DPS-57 Part 8 NY Load Norm TME Dec 2009 – TME Apr 2016 (2).xls

UFR-84
Page 1 of 1
Witness: House

NATIONAL FUEL GAS DISTRIBUTION CORPORATION
NEW YORK DIVISION
RESPONSE TO UTILITY FILING REQUIREMENTS
REQUEST FOR INFORMATION
CASE 16-G-

Question

84. Provide a description of the development of the annual capital expenditure forecast from inception to approval by the company's Board of Directors. Include a timetable for approval and the titles of Company personnel involved in the process at each step. Provide the formal approval process plan if appropriate. In addition, fully describe any corporate procedures, policies, and guidelines that govern and define the project management process, the cost management systems in use for projects, schedule management systems and the project prioritization process.

Response

Attached is The Company's Capital Budget Manual which outlines the process used in developing the Capital Forecasts and developing and monitoring the Capital Budgets for the Company. Also attached are the following documents which describe the Company's project management process, systems and programs.

- A. Project Management Process
- B. Project Life Cycle Chart
- C. Systematic Replacement Program Description
- D. Project Identification Programs
- E. Project Evaluation Program
- F. Capital Budget Support System

UFR-83
Page 1 of 1
Witness: House

NATIONAL FUEL GAS DISTRIBUTION CORPORATION
NEW YORK DIVISION
RESPONSE TO UTILITY FILING REQUIREMENTS
REQUEST FOR INFORMATION
CASE 16-G-

Question

83. Provide both actual and forecasted gas and common capital expenditure amounts for the last five historic years (either calendar or fiscal as appropriate) and the historic test year by blanket project grouping or specific project. Forecasted expenditure levels should be the levels approved by the company's Board of Directors for each historic period, but if they are not, fully explain why they are not.

Response

Attached are the fiscal year actual and forecasted gas and common capital expenditure amounts for the last five historic years, and the calendar year actual gas and common capital expenditure amounts for the historic test year.

UFR-83

National Fuel Gas Distribution Corporation
New York Division
Actual & Forecasted Capital Expenditures
FY 2011 - 2015

	Budget FY 2011	Actual FY 2011	Budget FY 2012	Actual FY 2012	Budget FY 2013	Actual FY 2013	Budget FY 2014	Actual FY 2014	Budget FY 2015	Actual FY 2015	Actual CY 2015*
Production Plant											
Account 325 - Land & Land Rights	0	0	0	0	0	0	0	0	0	0	0
Account 329 - Structure & Improvements	0	0	0	0	0	0	0	1,307	0	0	0
Account 332 - Production Mains	50,000	76,380	50,000	17,906	25,000	17,564	25,000	-1,491	25,000	24,571	22,445
Account 333 - Field Compressor Sta Eqpt	0	0	0	4,505	0	0	0	0	0	0	0
Account 334 - Field M&R Stations	205,000	125,029	200,000	182,497	170,000	140,551	175,000	-169	290,000	419,393	337,821
Subtotal	255,000	201,409	250,000	204,908	195,000	158,115	200,000	-353	315,000	443,964	360,266
Transmission Plant											
Account 365 - Land & Land Rights	0	0	0	0	0	17,302	0	3,084	0	0	22,956
Account 366 - Structures & Improvements	0	0	0	27,012	0	643	0	0	0	0	0
Account 367 - Transmission Lines	150,000	96,334	243,000	92,921	100,000	286,066	915,000	1,358,523	325,000	196,721	516,834
Account 369 - M&R Equipment	10,000	4,448	10,000	61,658	5,000	19,134	5,000	56,821	530,000	100,287	401,181
Subtotal	160,000	100,782	253,000	181,591	105,000	323,145	920,000	1,418,428	855,000	297,008	940,971
Distribution Plant											
Account 374 - Land	425,000	419,442	415,000	371,149	400,000	352,397	375,000	420,618	425,000	388,885	345,877
Account 375 - Structures & Improvements	25,000	0	25,000	44,759	25,000	22,062	25,000	124,112	25,000	35,471	53,648
Account 376 - Distribution Mains	14,329,000	15,701,564	16,500,000	15,765,439	15,750,000	17,458,092	14,950,000	20,879,872	21,385,000	23,297,032	23,379,380
Account 378 - M&R Structures & Eqpt	350,000	383,853	400,000	190,221	300,000	435,231	350,000	246,972	350,000	262,112	405,192
Account 380 - Services	14,725,000	14,999,816	14,500,000	16,138,451	15,500,000	16,280,805	15,450,000	16,247,913	18,000,000	16,547,023	16,705,367
Account 381 - Services M&R Equipment	845,000	723,312	922,000	928,371	1,171,000	946,456	1,290,000	1,309,305	1,407,000	1,807,439	1,385,579
Account 385 - Industrial M&R Equipment	805,000	708,814	739,000	389,141	615,000	682,394	635,000	627,202	685,000	603,847	496,322
Subtotal	31,504,000	32,936,801	33,501,000	33,827,531	33,761,000	36,177,437	33,075,000	39,855,994	42,277,000	42,941,809	42,771,365
Total Less General Plant & Special	31,919,000	33,238,992	34,004,000	34,214,030	34,061,000	36,658,697	34,195,000	41,274,069	43,447,000	43,682,781	44,072,602
General Plant											
Account 389 - General Land	0	0	0	0	0	0	0	0	0	0	0
Account 390 - Structures & Improvements	501,000	478,200	607,000	579,866	468,000	214,599	639,000	1,432,671	791,000	471,462	447,094
Account 391 - Office Furniture & Equipment	876,000	821,609	918,000	1,125,872	892,000	894,530	783,000	1,266,373	605,000	757,965	456,190
Account 392 - Transportation Equipment	2,175,000	2,166,285	1,750,000	2,020,322	1,600,000	1,485,023	1,665,000	1,850,220	2,200,000	2,394,352	2,199,842
Account 394 - Tools, Shop, & Garage Eqpt	224,000	312,911	279,000	187,396	305,000	318,692	248,000	1,121,261	338,000	482,955	528,022
Account 396 - Power Operated Equipment	275,000	143,856	690,000	823,951	1,100,000	584,218	1,930,000	1,785,714	2,088,000	1,992,584	2,082,394
Account 397 - Communications Equipment	341,000	56,113	504,000	26,847	325,000	161,429	236,000	193,393	249,000	196,820	206,064
Subtotal	4,392,000	3,978,974	4,748,000	4,764,254	4,690,000	3,658,491	5,501,000	7,649,632	6,271,000	6,296,138	5,919,606
Total Less Special Projects	36,311,000	37,217,966	38,752,000	38,978,284	38,751,000	40,317,188	39,696,000	48,923,701	49,718,000	49,978,919	49,992,208
Special Projects											
Account 333 - Field Compressor Sta Eqpt	1,050,000	734,722									
Account 334 - Field M&R Stations	650,000	34,747	600,000		600,000	371,405		298,471		17,564	36,999
Account 365 - Land & Land Rights									1,600,000	862,779	862,779
Account 367 - Transmission Lines									23,000,000	1,320,988	1,320,988
Account 390 - Structures & Improvements	1,361,000	1,273,138			500,000	428,406	800,000	1,202,861		83,543	75,233
Account 391 - Office Furniture & Equipment	708,000	709,014	548,000	558,130	5,280,000	7,457,841	17,495,000	9,102,624	23,346,000	11,357,160	9,694,882
Account 397 - Communications Equipment					800,000	289,226	850,000	398,384	350,000	436,328	343,298
Subtotal	3,769,000	2,751,621	1,148,000	558,130	7,180,000	8,546,878	19,145,000	11,002,340	48,296,000	14,078,362	12,334,179
Grand Total	40,080,000	39,969,587	39,900,000	39,536,414	45,931,000	48,864,066	58,841,000	59,926,041	98,014,000	64,057,281	62,326,387

* Historic Test Year

DPS-95
Page 1 of 5
Witness: House

NATIONAL FUEL GAS DISTRIBUTION CORPORATION
NEW YORK DIVISION
RESPONSE TO DEPARTMENT OF PUBLIC SERVICE
REQUEST FOR INFORMATION
CASE 16-G-0257

Question

Capital Expenditures

1. For each fiscal year listed, if the actual capital expenditure account number listed in UFR-83 (KDH) exceeded the budget amount by more than 10%, provide a fully descriptive analysis to detail whether the variance was caused by schedule slippage, scope change or cost variance, or combination thereof.

Answer

1. See below and attached.

Account 332 – Production Mains, FY 2011

Scope Change - Budget variance was due to the replacement of 8,500' of plastic pipe on the PY3 gathering system due to leakage. This unplanned project was not included in the FY 2011 Capital Budget.

Account 394 – Tools, Shop, & Garage Equipment FY 2011

Scope Change - Budget variance was due to the purchase of Altair 4X personal gas sensors at the recommendation of the Risk Department for increased safety of field personnel.

Account 375 – Structures & Improvements, FY 2012

Cost Variance - Budget variance was due to asbestos removal costs for certain structures requiring replacement

Account 380 – Services, FY 2012

Scope Change - Budget variance was due to additional service renewals associated with mainline replacements in urban areas as the Company accelerated replacement of cast iron mains.

Account 391 – Office Furniture & Equipment, FY 2012

Scope Change - Budget variance was due to schedule change associated with the purchase of computer equipment, which were originally scheduled

DPS-95
Page 2 of 5
Witness: House

NATIONAL FUEL GAS DISTRIBUTION CORPORATION
NEW YORK DIVISION
RESPONSE TO DEPARTMENT OF PUBLIC SERVICE
REQUEST FOR INFORMATION
CASE 16-G-0257

for FY 2013, but moved forward to FY 2012. Additionally, there was unplanned spending for monitors and an Identification card printer.

Account 392 – Transportation Equipment, FY 2012

Scope Change - Budget variance is partially due to cost variance and changes in scope, as spending on vehicles increased due to unplanned vehicle purchases resulting from additional replacements and new hires. Additionally, the Company committed to an unbudgeted CNG vehicle purchase program for vehicle replacements.

Account 396 – Power Operated Equipment, FY 2012

Scope Change - Budget variance was due to the unbudgeted replacement of construction vans that were previously leased.

Account 367 – Transmission Lines, FY 2013

Scope Change - Budget variance was due to the unbudgeted replacement of a section of Transmission Line RM-38 that was exposed in a stream and an unbudgeted cathodic protection upgrade on Line V-M2.

Account 369 – M&R Equipment, FY 2013

Scope Change - Budget variance was due to the installation of a new regulator and manual bypass for Station SDH 107T that was unanticipated at the time of budget development.

Account 376 – Distribution Mains, FY 2013

Cost Variance - Budget variance was due to an increase in contractor costs under new blanket pipeline contracts bid during FY 2013.

Account 378 – M&R Structures & Equipment, FY 2013

Scope Change - Budget variance was due to M&R projects added to the construction plan that were not anticipated at the time of budget development.

Account 391 – Office Furniture & Equipment, FY 2013

Cost Variance - Budget variance was due to the purchase of SAP application and database software, for the Barcelona project, that exceeded the original budget estimate.

DPS-95
Page 3 of 5
Witness: House

NATIONAL FUEL GAS DISTRIBUTION CORPORATION
NEW YORK DIVISION
RESPONSE TO DEPARTMENT OF PUBLIC SERVICE
REQUEST FOR INFORMATION
CASE 16-G-0257

Account 367 – Transmission Lines, FY 2014

Cost Variance - Budget variance was due to higher than anticipated contractor pricing on the Line FM14 replacement project. Additionally a scope change and schedule slippage on the 2013 Line RM38 project resulted in higher than anticipated carryover.

Account 369 – M&R Equipment, FY 2014

Scope Change - Budget variance was due to the net book value intercompany asset transfer of a regulator station from National Fuel Gas Supply Corporation to Distribution, to facilitate system changes on the Lein Road project.

Account 374 – Land, FY 2014

Scope Change - Budget variance was due to the 2014 Rate Settlement between the Company and NY PSC that included a new leak-prone pipe replacement target to replace an additional 15 miles of leak-prone main annually. The new LPP target resulted in additional right-of-way acquisition activity.

Account 375 – Structures & Improvements, FY 2014

Scope Change - Budget variance was due to Servicenter roof replacements that were charged to Account 375 but budgeted under Account 390.

Account 376 – Distribution Mains, FY 2014

Scope Change - Budget variance was due to the 2014 Rate Settlement between the Company and NY PSC that included a new leak-prone pipe replacement target to replace an additional 15 miles of leak-prone main annually.

Account 390 – Structures & Improvements, FY 2014

Scope Change - Budget variance under General Plant was due to unbudgeted fuel tank replacements at the Clarence and Mineral Springs Servicenters and unbudgeted building improvements at Mineral Springs. The budget variance under Special Projects was due to the unbudgeted replacement of the slow fill CNG refueling system at Mineral Springs.

DPS-95
Page 4 of 5
Witness: House

NATIONAL FUEL GAS DISTRIBUTION CORPORATION
NEW YORK DIVISION
RESPONSE TO DEPARTMENT OF PUBLIC SERVICE
REQUEST FOR INFORMATION
CASE 16-G-0257

Account 391 – Office Furniture & Equipment, FY 2014

Scope Change - Budget variance was due to the unbudgeted purchase of computer hardware for the Windows 7 and Gas Management System upgrades. Additionally, computer hardware purchases for the Time Reporting System, that was budgeted under Special Projects, were charged to Account 391.

Account 392 – Transportation Equipment, FY 2014

Cost Variance - Budget variance was due to higher than anticipated costs for outfitting new construction vans with shelving and other accessories.

Account 394 – Tools, Shop, & Garage Equipment, FY 2014

Scope Change - Budget variance was due to the unbudgeted purchase of new plastic fusion tools, squeeze tools and equipment due to the Company's switch to HDPE plastic pipe and materials.

Account 334 – Field M&R Stations, FY 2015

Budget variance was due to the timing of a producer CIAC to install an interconnect on Line R. The project had a credit payment from the producer during FY 2014, with the offsetting construction cost incurred in FY 2015.

Account 375 – Structures & Improvements, FY 2015

Cost Variance - Budget variance was due to asbestos removal costs for certain structures requiring replacement.

Account 381 – Services M&R Equipment, FY 2015

Scope Change - Budget variance was a result of additional meter purchases, to increase meter stock, to insulate against delivery issues from new PSC approved meter vendors.

Account 391 – Office Furniture & Equipment, FY 2015

Scope Change - Budget variance was due to the purchase of Telvent ArcFM Viewer and ESRI licensing that was not anticipated at the time of the FY 2015 budget approval.

DPS-95
Page 5 of 5
Witness: House

NATIONAL FUEL GAS DISTRIBUTION CORPORATION
NEW YORK DIVISION
RESPONSE TO DEPARTMENT OF PUBLIC SERVICE
REQUEST FOR INFORMATION
CASE 16-G-0257

Account 394 – Tools, Shop, & Garage Equipment, FY 2015

Scope Change - Budget variance was due to cost variance resulting from the unbudgeted purchase of a heavy equipment lift for the Mineral Springs Garage and sonic nozzle proving equipment for the Meter Shop.

Account 397 – Special Projects Communications Equipment, FY 2015

Schedule Slippage - Budget variance was due to carry over spending from FY 2014 for the PBX Replacement Special Project.

DPS-144
Page 1 of 7
Witness: House

NATIONAL FUEL GAS DISTRIBUTION CORPORATION
NEW YORK DIVISION
RESPONSE TO DEPARTMENT OF PUBLIC SERVICE
REQUEST FOR INFORMATION
CASE 16-G-0257

Question

Capital Expenditures

1. Provide a breakdown of LPP mileage by diameter, material type and pressure.
2. Provide the last five fiscal years' historic cost to remove each type (diameter, material type and pressure) of LPP in US dollars per diameter inch per foot.
3. Provide the forecasted rate year cost to remove each type (diameter, material type and pressure) of LPP in US dollars per diameter inch per foot.
4. For each fiscal year listed, if the actual capital expenditure account number listed in UFR-83 (KDH) was below the budget amount by more than 10%, provide a fully descriptive analysis to detail whether the variance was caused by schedule slippage, scope change or cost variance, or combination thereof.

Answer

1. See Attachment DPS-144-1.
2. The table below shows the Company's weighted average unit cost per diameter inch-foot (CFDI) to install mains on pipeline replacement projects. Please note that the study does not include removal costs associated with these projects. The Company does not maintain replacement costs by diameter, material type and pressure.

Year	Weighted Average CFDI
2011	\$10.90
2012	\$10.43
2013	\$10.58
2014	\$10.57
2015	\$11.50

DPS-144
Page 2 of 7
Witness: House

NATIONAL FUEL GAS DISTRIBUTION CORPORATION
NEW YORK DIVISION
RESPONSE TO DEPARTMENT OF PUBLIC SERVICE
REQUEST FOR INFORMATION
CASE 16-G-0257

3. The Company did not forecast LPP removal costs by CFDI or by diameter, material type and pressure. See attached DPS-144-2 for the LPP Replacement Cost Analysis that the Company used to forecast LPP replacement costs.
4. See below and attached DPS-144-3.

The Company forecasts expected expenditures in its capital budget based on information available during the time of budget preparation. Spending during the fiscal year is reviewed monthly and adjustments to individual capital budget programs are made as required, based on changing priorities and to manage overall capital spending to insure the safety and reliability of the Company's pipeline system.

Account 334 – Field M&R Stations, FY 2011

Scope Change - Budget based on historical spending to purchase and install new and replacement equipment for local producer interconnects. Budget variance was due to timing of expenditures and producer payments, as local producers are responsible for a majority of the costs for this activity. Additionally, fewer electronic correctors were purchased than anticipated.

Account 367 – Transmission Lines, FY 2011

Budget variance was due to the delayed start date for the Line UJ cathodic protection system upgrade that was rebudgeted in FY2012.

Account 369 – M&R Structures & Equipment, FY 2011

Cost Variance – Budget variance was due to the application of a credit as a part of the reimbursable project, Four Mile Level Road.

Account 375 – Structure & Improvements, FY 2011

Scope Change – Budget based on historical spending. Budget variance was due to less work performed than anticipated on this activity during FY2011.

Account 381 – Services M&R Equipment, FY 2011

Scope Change - Budget based on historical spending to purchase meters and correcting devices for distribution services. Budget variance was due to the need for fewer meter purchases than anticipated during FY2011.

DPS-144
Page 3 of 7
Witness: House

NATIONAL FUEL GAS DISTRIBUTION CORPORATION
NEW YORK DIVISION
RESPONSE TO DEPARTMENT OF PUBLIC SERVICE
REQUEST FOR INFORMATION
CASE 16-G-0257

Account 385 – Industrial M&R Equipment, FY 2011

Scope Change - Budget based on historical spending to purchase and install new and replacement industrial meter sets and equipment. Budget variance was due to less work performed than anticipated on this activity during FY2011.

Account 396 – Power Operated Equipment, FY 2011

Budget variance was due to higher than expected trade-in credits for equipment that was replaced.

Account 397 – Communications Equipment, FY 2011

Budget variance was due to the delayed phone system upgrade costs that were rebudgeted in FY2012.

Account 333 – Special Projects Field Compressor Sta. Eqpt., FY 2011

Cost Variance – Budget variance was due to the project to replace the compressor unit #5 at Nashville Compressor Station, which cost less than the estimate. Original estimate was based on a design/build approach. After receipt of contractor bids, the Company decided to manage the construction of the new station to reduced costs.

Account 334 – Special Projects Field M&R Stations, FY 2011

Budget variance was due to the delayed negotiations and approval for the sale of portions of the PY3 gathering system to a local producer. Project was rebudgeted in FY2012.

Account 332 – Production Mains, FY 2012

Scope Change - Budget based on historical spending to replace production mains due to leakage. Budget variance was due to less work performed than anticipated on this activity during FY2012.

Account 367 – Transmission Lines, FY 2012

Budget variance was due to a delayed start date and the timing of contractor invoices for the PY2 exposure remediation.

Account 374 – Land & Land Rights, FY 2012

Scope Change - Budget based on historical spending to acquire land and land rights for distribution pipelines. Budget variance was due to fewer acquisitions than anticipated on this activity during FY2012.

DPS-144
Page 4 of 7
Witness: House

NATIONAL FUEL GAS DISTRIBUTION CORPORATION
NEW YORK DIVISION
RESPONSE TO DEPARTMENT OF PUBLIC SERVICE
REQUEST FOR INFORMATION
CASE 16-G-0257

Account 378 – M&R Stations & Equipment, FY 2012

Scope Change - Budget based on historical spending to install and replace distribution regulator stations and equipment. Budget variance was due to less work performed than anticipated on this activity during FY2012.

Account 385 – Industrial M&R Equipment, FY 2012

Scope Change - Budget based on historical spending to purchase and install new and replacement industrial meter sets and equipment. Budget variance was due to less work performed than anticipated on this activity during FY2012.

Account 394 – Tools, Shop & Garage Equipment, FY 2012

Budget variance was due to the delayed purchases of tools and equipment, including a meter leak tester and a new vehicle lift, rebudgeted in FY 2013.

Account 397 – Communications Equipment, FY 2012

Budget variance was due to the delayed implementation of phone system upgrades and IVR/Smartphone Upgrade projects that were rebudgeted in FY 2013.

Account 334 – Special Projects Field M&R Stations, FY 2012

Budget variance was due to the delayed negotiations and approval for the sale of portions of the PY3 gathering system to a local producer. Project was rebudgeted in FY2013.

Account 332 – Production Mains, FY 2013

Scope Change - Budget based on historical spending to replace production mains due to leakage. Budget variance was due to less work performed than anticipated on this activity during FY2013.

Account 334 – Field M&R Stations, FY 2013

Scope Change - Budget based on historical spending to purchase and install new and replacement equipment for local producer interconnects. Budget variance was due to timing of expenditures and producer payments, as local producers are responsible for a majority of the costs for this activity.

DPS-144
Page 5 of 7
Witness: House

NATIONAL FUEL GAS DISTRIBUTION CORPORATION
NEW YORK DIVISION
RESPONSE TO DEPARTMENT OF PUBLIC SERVICE
REQUEST FOR INFORMATION
CASE 16-G-0257

Account 374 – Land & Land Rights, FY 2013

Scope Change - Budget based on historical spending to acquire land and land rights for distribution pipeline. Budget variance was due to fewer acquisitions than anticipated on this activity during FY2013.

Account 375 – Structures & Improvements, FY 2013

Scope Change – Budget based on historical spending. Budget variance was due to less work performed than anticipated on this activity during FY2013.

Account 381 – Services M&R Equipment, FY 2013

Budget based on historical spending to purchase meters and correcting devices for distribution services. Budget variance was due to fewer electronic correctors purchased than anticipated.

Account 390 – Structures & Improvements, FY 2013

Budget variance was due to post budget spending adjustments to delay of some Servicenter improvements due to overspending in distribution main and service replacements resulting from highway and municipal relocation projects.

Account 396 – Power Operated Equipment, FY 2013

Budget variance was due to timing of purchases of new construction vans and payments to outside vendors. Carryover was rebudgeted in FY2014.

Account 397 – Communications Equipment, FY 2013

Budget variance was due to a schedule change for radio console upgrades and the telemetric dialer replacement project, rebudgeted in FY2014.

Account 334 – Special Projects Field M&R Stations, FY 2013

Budget variance was due to the carryover of spending for the PY3 gathering system orifice meter replacement project into FY2014. Schedule was dependent on work performed by local producer.

Account 390 – Special Projects Structures & Improvements, FY 2013

Scope Change - Budget variance was due to the carryover of spending for the CNG Upgrade project into FY2014 that was rebudgeted in FY2014 with an increased scope.

DPS-144
Page 6 of 7
Witness: House

NATIONAL FUEL GAS DISTRIBUTION CORPORATION
NEW YORK DIVISION
RESPONSE TO DEPARTMENT OF PUBLIC SERVICE
REQUEST FOR INFORMATION
CASE 16-G-0257

Account 397 – Special Projects Communications Equipment, FY 2013

Budget variance was due to schedule adjustment for phone system upgrades that were rebudgeted in FY2014.

Account 332 – Production Mains, FY 2014

Scope Change - Budget based on historical spending to replace production mains due to leakage. Budget variance was due to less work performed than anticipated on this activity during FY2014.

Account 334 – Field M&R Stations, FY 2014

Scope Change - Budget based on historical spending to purchase and install new and replacement equipment for local producer interconnects. Budget variance was due to timing of expenditures and producer payments, as local producers are responsible for a majority of the costs for this activity.

Account 378 – M&R Stations & Equipment, FY 2014

Scope Change - Budget based on historical spending to install and replace distribution regulator stations and equipment. Budget variance was due to less work performed on this activity than anticipated during the fiscal year.

Account 397 – Communications Equipment, FY 2014

Budget variance was due to the delayed replacement of the Call Detail Recording System that was rebudgeted in FY2015.

Account 391 – Special Projects Office Furniture & Equipment, FY 2014

Budget variance was due to timing of payments to outside vendors and deferral of computer hardware purchases to FY2015.

Account 397 – Special Projects Communications Equipment, FY 2014

Budget variance was due to a schedule change for phone system upgrades that were rebudgeted in FY2015.

Account 367 – Transmission Lines, FY 2015

Scope Change – Budget variance was due to timing of construction of the Line Z to Empire Pipeline Interconnect. Under spending was rebudgeted in FY2016.

DPS-144
Page 7 of 7
Witness: House

NATIONAL FUEL GAS DISTRIBUTION CORPORATION
NEW YORK DIVISION
RESPONSE TO DEPARTMENT OF PUBLIC SERVICE
REQUEST FOR INFORMATION
CASE 16-G-0257

Account 369 – M&R Equipment, FY 2015

Budget variance was due to a change in schedule for rebuilding Line Z regulator stations associated with the new Empire Pipeline interconnect. Additionally permitting delays and environmental issues further delayed the project.

Account 378 – M&R Stations & Equipment, FY 2015

Scope Change - Budget based on historical spending to install and replace distribution regulator stations and equipment. Budget variance was due to less work performed than anticipated on this activity during FY2015.

Account 385 – Industrial M&R Equipment, FY 2015

Scope Change - Budget based on historical spending to install and replace industrial metering and regulating stations and equipment. Budget variance was due to less work performed than anticipated on this activity during FY2015.

Account 390 – Structures & Improvements, FY 2015

Budget variance was due to post budget spending adjustments to delay of some Servicenter improvements due to overspending in distribution main replacements.

Account 397 – Communications Equipment, FY 2015

Budget variance was due to the timing of payments to outside vendors for the Call Detail Recording and CRC Workforce Management systems.

Account 365 – Special Projects Land & Land Rights, FY 2015

Scope Change - Budget variance was due to the Dunkirk Pipeline Project being placed on hold.

Account 367 – Special Projects Transmission Lines, FY 2015

Scope Change - Budget variance was due to the Dunkirk Pipeline Project being placed on hold.

Account 391 – Special Projects Office Furniture & Equipment, FY 2015

Budget variance was due to the timing of payments to outside vendors and the deferral of the implementation date of the new CIS and Time Reporting systems until the FY2016. Additionally, the Pipeline Facilities Inspection System upgrade was delayed until FY2016.

DPS-144-1

Leak Prone Pipe Footage

Material	Pressure (Psig)	Pipe Size												
		<2"	2"	3"	4"	5"	6"	7"	8"	10"	12"	16"	20"	24"
Protected Bare	1-60		2,205	945			1,457		52,524	17,758	1,202	18,015	20,435	
	61-124								115,139		25,150			
	>124	222			5,502		29,008		229,884	59,240				
Unrotected Bare	<1	7,316	414,949	1,249,328	2,174,861	12,258	745,115	3	263,052	3,055	84,685	2,719	96	
	1-60	28,336	767,293	668,893	576,096	53,989	646,343	13,114	337,321	6,072	39,364	53,957	13,558	1,879
	61-124		1,262	928	48		16,846		53,065		355	45		
	>124		219	19	114		43		257	26	29			
Unrotected Coated (Below Grade)	<1		602	1,139	8,429		4,271				1,788	1,389		
	1-60		3,484	1,232	1,936		4,315		5,952		3,423	1,264		
	61-124						50		280					
Cast Iron	<1			443	78,214		256,857		1,790	3,508	88,354	1,435		
Wrought Iron	<1	449	76,307	321,641	286,997	3,436	197,433	1,362	42,337	726	9,131			
	1-60	1,629	67,951	15,386	33,705	22,644	70,045		40,123		6,697			

DPS-144-2

**National Fuel Gas Distribution Corporation
2016 LPP Replacement Cost Analysis**

	FY 2013 ACTUAL	FY 2014 ACTUAL	FY 2015 ACTUAL	FY 2016 FORECAST	FY 2017 FORECAST	FY 2018 FORECAST
Main Replacements	15,367,779	18,575,217	20,437,252	21,908,734	22,842,046	23,815,117
% Inc./Dec. from previous year		20.9%	10.0%	7.2%	4.3%	4.3%
LPP Reduction	80.6	93.6	95.4	95	95	95
Cost per Mile LPP Main Reduced	\$190,667	\$198,453	\$214,227	\$230,618	\$240,443	\$250,685
Difference		7,786	15,774	16,391	9,824	10,243
% Inc./Dec. from previous year		4.1%	7.9%	7.7%	4.3%	4.3%
Service Replacements						
Service Replacements	13,821,651	13,279,462	13,881,145	14,880,587	15,514,500	16,175,418
% Inc./Dec. from previous year		-3.9%	4.5%	7.2%	4.3%	4.3%
LPP Service Reduction	4,138	3,282	3,248	3,248	3,248	3,248
Cost per LPP Service Reduced	\$3,340	\$4,046	\$4,274	\$4,581	\$4,777	\$4,980*
Difference		706	228	308	195	203
% Increase from previous year		21.1%	5.6%	7.2%	4.3%	4.3%
Cost per LPP Main Mile Reduced	\$171,485	\$141,875	\$145,505	\$156,638	\$163,311	\$170,268
% Inc./Dec. from previous year		-17.3%	2.6%	7.7%	4.3%	4.3%
Total Cost/Mile LPP						
	\$362,152	\$340,328	\$359,732	\$387,256	\$403,753	\$420,953

% Increase from 2015 Actual 12.2% 17.0%

% Increase from 2017 Forecast 4.3%

5 Miles 10 Miles
\$2,018,766 \$4,209,530

Estimated pricing for FY2016 developed by increasing 40% of FY2015 spending by 15% for new 2016 blanket contract pricing increase and 60% of FY2015 spending by 2% inflation. Estimated pricing for FY2017 assumes a 5% increase and 2% inflation on 60% of FY2016 Forecasted Spending for additional costs due to anticipated unit price increases due to additional LPP replacement.

Estimated pricing for FY2016 developed by increasing 40% of FY2015 spending by 15% for new 2016 blanket contract pricing increase and 60% of FY2015 spending by 2% inflation. Estimated pricing for FY2017 assumes a 5% increase and 2% inflation on 60% of FY2016 Forecasted Spending for additional costs due to anticipated unit price increases due to additional LPP replacement.

*Cost includes non-LPP service renewal costs

**National Fuel Gas Distribution Corporation
New York Division
Actual & Forecasted Capital Expenditures
FY 2011 - 2015**

	Budget FY 2011	Actual FY 2011	% Variance	Budget FY 2012	Actual FY 2012	% Variance	Budget FY 2013	Actual FY 2013	% Variance	Budget FY 2014	Actual FY 2014	% Variance	Budget FY 2015	Actual FY 2015	% Variance
Production Plant															
Account 325 - Land & Land Rights	0	0		0	0		0	0		0	0		0	0	
Account 329 - Structure & Improvements	0	0		0	0		0	0		0	1,307		0	0	
Account 332 - Production Mains	50,000	76,380	52.8%	50,000	17,906	-64.2%	25,000	17,564	-29.7%	25,000	-1,491	-106.0%	25,000	24,571	-1.7%
Account 333 - Field Compressor Sta Eqpt	0	0		0	4,505		0	0		0	0		0	0	
Account 334 - Field M&R Stations	205,000	125,029	-39.0%	200,000	182,497	-8.8%	170,000	140,551	-17.3%	175,000	-169	-100.1%	290,000	419,393	44.6%
Transmission Plant															
Account 365 - Land & Land Rights	0	0		0	0		0	17,302		0	3,084		0	0	
Account 366 - Structures & Improvements	0	0		0	27,012		0	643		0	0		0	0	
Account 367 - Transmission Lines	150,000	96,334	-35.8%	243,000	92,921	-61.8%	100,000	286,066	186.1%	915,000	1,358,523	48.5%	325,000	196,721	-39.5%
Account 369 - M&R Equipment	10,000	4,448	-55.5%	10,000	61,658	516.6%	5,000	19,134	282.7%	5,000	56,821	1036.4%	530,000	100,287	-81.1%
Distribution Plant															
Account 374 - Land	425,000	419,442	-1.3%	415,000	371,149	-10.6%	400,000	352,397	-11.9%	375,000	420,618	12.2%	425,000	388,885	-8.5%
Account 375 - Structures & Improvements	25,000	0	-100.0%	25,000	44,759	79.0%	25,000	22,062	-11.8%	25,000	124,112	396.4%	25,000	35,471	41.9%
Account 376 - Distribution Mains	14,329,000	15,701,564	9.6%	16,500,000	15,765,439	-4.5%	15,750,000	17,458,092	10.8%	14,950,000	20,879,872	39.7%	21,385,000	23,297,032	8.9%
Account 378 - M&R Stations & Eqpt	350,000	383,853	9.7%	400,000	190,221	-52.4%	300,000	435,231	45.1%	350,000	246,972	-29.4%	350,000	262,112	-25.1%
Account 380 - Services	14,725,000	14,999,816	1.9%	14,500,000	16,138,451	11.3%	15,500,000	16,280,805	5.0%	15,450,000	16,247,913	5.2%	18,000,000	16,547,023	-8.1%
Account 381 - Services M&R Equipment	845,000	723,312	-14.4%	922,000	928,371	0.7%	1,171,000	946,456	-19.2%	1,290,000	1,309,305	1.5%	1,407,000	1,807,439	28.5%
Account 385 - Industrial M&R Equipment	805,000	708,814	-11.9%	739,000	389,141	-47.3%	615,000	682,394	11.0%	635,000	627,202	-1.2%	685,000	603,847	-11.8%
General Plant															
Account 389 - General Land	0	0		0	0		0	0		0	0		0	0	
Account 390 - Structures & Improvements	501,000	478,200	-4.6%	607,000	579,866	-4.5%	468,000	214,599	-54.1%	639,000	1,432,671	124.2%	791,000	471,462	-40.4%
Account 391 - Office Furniture & Equipment	876,000	821,609	-6.2%	918,000	1,125,872	22.6%	892,000	894,530	0.3%	783,000	1,266,373	61.7%	605,000	757,965	25.3%
Account 392 - Transportation Equipment	2,175,000	2,166,285	-0.4%	1,750,000	2,020,322	15.4%	1,600,000	1,485,023	-7.2%	1,665,000	1,850,220	11.1%	2,200,000	2,394,352	8.8%
Account 394 - Tools, Shop, & Garage Eqpt	224,000	312,911	39.7%	279,000	187,396	-32.8%	305,000	318,692	4.5%	248,000	1,121,261	352.1%	338,000	482,955	42.9%
Account 396 - Power Operated Equipment	275,000	143,856	-47.7%	690,000	823,951	19.4%	1,100,000	584,218	-46.9%	1,930,000	1,785,714	-7.5%	2,088,000	1,992,584	-4.6%
Account 397 - Communications Equipment	341,000	56,113	-83.5%	504,000	26,847	-94.7%	325,000	161,429	-50.3%	236,000	193,393	-18.1%	249,000	196,820	-21.0%
Special Projects															
Account 333 - Field Compressor Sta Eqpt	1,050,000	734,722	-30.0%												
Account 334 - Field M&R Stations	650,000	34,747	-94.7%	600,000		-100.0%	600,000	371,405	-38.1%		298,471			17,564	
Account 365 - Land & Land Rights													1,600,000	862,779	-46.1%
Account 367 - Transmission Lines													23,000,000	1,320,988	-94.3%
Account 390 - Structures & Improvements	1,361,000	1,273,138	-6.5%				500,000	428,406	-14.3%	800,000	1,202,861	50.4%		83,543	
Account 391 - Office Furniture & Equipment	708,000	709,014	0.1%	548,000	558,130	1.8%	5,280,000	7,457,841	41.2%	17,495,000	9,102,624	-48.0%	23,346,000	11,357,160	-51.4%
Account 397 - Communications Equipment							800,000	289,226	-63.8%	850,000	398,384	-53.1%	350,000	436,328	24.7%

DPS-65
Page 1 of 2
Witness: Boyle

NATIONAL FUEL GAS DISTRIBUTION CORPORATION
NEW YORK DIVISION
RESPONSE TO DEPARTMENT OF PUBLIC SERVICE
REQUEST FOR INFORMATION
CASE 16-G-0257

Question

Re: CIS – Barcelona Project Authorization

- 1.) For a technology/system project the scope, scale and cost of the new \$46 million CIS system/Barcelona Project, describe the financial and budgetary process from the initial concept of the replacement of the old computer to the actual implementation of the new computer system.
- 2.) Provide all management presentations, business case analyses, cost/benefit analyses, internal audit reports, budget vs. actual costs comparisons, capital and O&M budget presentation and actual management approvals as they relate to the CIS/Barcelona Project.

Response

1) All standard Company procedures regarding budgetary and financial controls were followed throughout the project. The first formal approvals to begin the project proper are evidenced by signed Expenditure Requests in November of 2012. The first attached document listed under #2a below describes that process. Copies of all Barcelona Project approved ERs and any reauthorizations (approved increases to the original ER amounts) are also described below #2b and are attached. For the first several months of the project (November 2012 - September 2013), what we refer to as the "solution procurement phase", only two outside consulting firms, with a minimal number of individuals from either firm working with the Company were in play. The two firms were Five Point Partners, who worked with us to develop the RFP and evaluate the responses, and Jones Day, the law firm we used to help us with the contract negotiations. During that first nine months, all costs were properly approved and tracked against the project IDs created as a result of the approved ERs. The end of the "solution procurement phase" was the execution of contracts with SAP and HCL in late September 2013.

Beginning in October 2013, we created two new departments within our financial accounting system (1295- CIS NY Division and 4295 - CIS PA Division) to enable a mechanism to easily isolate and report on all Barcelona costs. Beginning in October of 2013; monthly reports detailing both capital and O&M spend were initiated. The O&M reports come out of our PeopleSoft Financials system. The monthly capital reporting was generated by our project accountant. Items #2d and #2e below explain what those reports are, and the reports are attached.

DPS-65
Page 2 of 2
Witness: Boyle

NATIONAL FUEL GAS DISTRIBUTION CORPORATION
NEW YORK DIVISION
RESPONSE TO DEPARTMENT OF PUBLIC SERVICE
REQUEST FOR INFORMATION
CASE 16-G-0257

Item #2c below describes and has attached all of the formal presentations given to the project's executive oversight group from August 2102 through April 2016. **The attached Steering Committee Presentation should be treated as CONFIDENTIAL as they include employee names, vendor employee names, and specific financial information regarding the vendor contracts that should not be public.** No formal internal or external audit reports on the project have been issued to date.

2) The Company did not develop a formal business case or cost benefit analysis as the system was already twenty-two years old in 2012. In my base testimony (pages 7 -19) I summarized the reasons why the Company had been forced to embark on this replacement project.

Please find the following documents attached;

Document Description	File Names
a) National Fuel Expenditure Request Procedure	<ul style="list-style-type: none"> • NFG Expenditure Request Process.pdf
b) All approved Expenditure Requests (ERs) for the Barcelona Project	<ul style="list-style-type: none"> • All Barcelona ERs and Reauthorizations.pdf
c) Steering Committee Meeting Presentations for Barcelona Project from August 2012 through April 2016	<ul style="list-style-type: none"> • Steering Committee Meetings August 2012 through December 2014.pdf - CONFIDENTIAL • Steering Committee Meetings January 2015 through April 2016.pdf - CONFIDENTIAL
d) Monthly O&M Budget Reports for Barcelona Project (NY D190 and PA D290) from October 2013 through April 2016.	<ul style="list-style-type: none"> • Barcelona Monthly NY OandM Reports Oct2013 throughApril2016.pdf • Barcelona Monthly PA OandM Reports Oct2013 throughApril2016.pdf
e) Monthly Capital Budget Reports for Barcelona from Project Account, from October 2013 through April 2016.	<ul style="list-style-type: none"> • Barcelona Monthly Capital Reports Oct2013 throughApril2016.pdf

Expenditure Request Procedures – All Business Units

1. Expenditure Request

An Expenditure Request is a formal document used to document proposed work and approvals for capital construction projects. It describes, in text and graphics, the nature of the proposed work and its location. Expenditure Requests must be prepared and approved before any capital expenditures may proceed.

In certain cases, such as for long lead time material, it may be necessary to create a purchase order before an Expenditure Request is approved. The purchase order must be approved by the appropriate levels according to the AP Approval Matrix for Requisitions. These types of items need to be ordered in advance, so that they arrive in time for construction, which may be before a fully defined scope and estimate are known.

Preliminary Engineering Projects can be utilized in the Regulated Companies to accumulate expenditures made for the purpose of determining the feasibility of proposed projects. Types of expenditures can include preliminary surveys, plans, investigations, etc, which are charged to the FERC Uniform System of Accounts 183.2. Since these accounts can only be used for regulated companies, preliminary projects cannot be used in the non-regulated Midstream companies.

2. Approvals

The Expenditure Request should have all the appropriate approvals before work is started. An Expenditure Request may be initiated by the Servicenter, by Engineering, or by another department. It is submitted to the responsible Engineering clerk, who issues a project number in PeopleSoft Projects and routes the Expenditure Request in Onbase Workflow for approval. Some Expenditure Requests may be manually routed for approval, if the appropriate workflow does not exist in Onbase. Depending on the size and cost of a project different approvals are required based on the Approval Matrix for Requisitions and Disbursements published by the Purchasing Department on EDOC's. Jobs will be issued and put into the "proposed" status until appropriate approvals are obtained. Costs cannot be charged to a project while in "proposed" status. Once these projects have been fully approved, the job status will be changed to "approved" and the project can then accept charges.

3. Project Reauthorizations

1. When a project, with actual costs and/or estimate over \$100K, exceeds the original cost estimate by established thresholds, the Project must be reauthorized according to Engineering's Reauthorization Procedure.

DPS-93
Page 1 of 2
Witness: House

NATIONAL FUEL GAS DISTRIBUTION CORPORATION
NEW YORK DIVISION
RESPONSE TO UTILITY FILING REQUIREMENTS
REQUEST FOR INFORMATION
CASE 16-G-0257

Question

Re: Capital Expenditures

1. For each budgeted capital expenditure account number and sub category, by year, listed in UFR 89(KDH):
 - a. Identify if the capital budgets are a program (blanket), project (individual) or a combination of programs and projects;
 - b. For each project, provide a fully detailed description, including all studies and alternative analysis;
 - c. Provide a justification of each program or project expenditure, including a cost benefit analysis;
 - d. Explain how each program's or project's costs were forecast;
 - e. Provide a breakdown for each program or project cost;
 - f. For each project, provide the current schedule, with major milestones and in-service dates; and
 - g. Provide the associated corporate management program or project authorization.

2. For each budgeted capital expenditure account number and sub category, by year, listed in UFR 89(KDH), provide an explanation of the expected resulting O&M program change in the rate year and subsequent four fiscal years, provide:
 - a. a detailed description of the related O&M program;
 - b. the related actual and budgeted O&M expenditure amounts for the last five historic fiscal years by program;
 - c. the related O&M for both actual and planned units of work completed on annual basis for the last five fiscal years;
 - d. a justification for the related O&M program change;
 - e. a cost breakdown of the related O&M; and
 - f. the planned units of related O&M work to be completed in future fiscal periods.

Response

1. See below.
 - a. See Attachment DPS-93-A, Column A.

DPS-93
Page 2 of 2
Witness: House

NATIONAL FUEL GAS DISTRIBUTION CORPORATION
NEW YORK DIVISION
RESPONSE TO UTILITY FILING REQUIREMENTS
REQUEST FOR INFORMATION
CASE 16-G-0257

- b. See Attachment DPS-93-B for additional capital program descriptions and Attachment DPS-93-A, Column B, for additional project descriptions.
- c. See Attachment DPS-93-A, Column C. The following codes are used to summarize responses.

A	Programmatic replacement of aging equipment and obsolete technology
B	Business Continuity
C	Improve Service/Capability
I	System Integrity & Safety
M	Maintenance Replacement
N	New Business / Customer Request
R	System Reliability
X	Regulatory/Government Mandate

- d. See Attachment DPS-93-A, Column D. The following codes are used to summarize responses.

H	Forecast based on historical costs adjusted for anticipated future activity
P1	Forecast based on project estimate adjusted for remaining spending
P2	Estimate based on similar scope projects
Q	Vendor quote
S	Subject Matter Expert Estimate

- e. The capital forecast provides a high-level estimate of the spending schedule for programs and projects included in the forecast. Detailed estimates are developed at the project expenditure request phase, as required, based on the project scope.
 - f. The capital forecast provides a high-level estimate of the spending schedule for programs and projects included in the forecast. Individual project schedules, milestones and anticipated in-service dates are developed at the project expenditure request phase, as required, based on the project scope.
 - g. See Capital Budget Manual submitted in response to UFR-84.
2. The Company does not anticipate and did not forecast any O&M program changes as a result of the capital expenditure program.

DPS-73
Page 1 of 3
Witness: House

NATIONAL FUEL GAS DISTRIBUTION CORPORATION
NEW YORK DIVISION
RESPONSE TO DEPARTMENT OF PUBLIC SERVICE
REQUEST FOR INFORMATION
CASE 16-G-0257

Question

Leak Prone Pipe (LPP) Replacement

- 1) Provide the total mileage of leak prone pipe (LPP) remaining, per material type, in each of the operating service territories at the end of the 2015 calendar year.
- 2) Provide the total mileage of LPP replaced, per material type, in each of the operating service territories during the following calendar years: 2011, 2012, 2013, 2014, and 2015.
- 3) On page 3, lines 8 and 9, of the Direct Testimony of Kevin D. House, certain earlier vintages of plastic piping are included within the Company's leak prone pipe replacement program. Provide the specific earlier vintages of plastic piping included in the Company's leak prone pipe replacement program.
- 4) On page 4, lines 3 through 7, of the Direct Testimony of Kevin D. House, the Pipeline Replacement Evaluation Program, PREP, is discussed as a robust and carefully designed program which prioritizes the segments of leak prone pipe to be replaced. Describe the process and methodology utilized by PREP and the Company, to prioritize segments of leak prone pipe for their replacement.

Response

- 1) See table below.

<i>LPP MILES</i>	<i>MSW</i>	<i>TOSC</i>	<i>BASC</i>	<i>CLSC</i>	<i>OPSC</i>	<i>DUSC</i>	<i>SALD</i>	<i>WELD</i>	<i>JAMD</i>	<i>NFSC</i>	<i>Total</i>
<i>Cast Iron</i>	63.14	18.36	0.00	0.05	0.00	0.00	0.00	0.01	0.00	0.01	81.57
<i>Coated Unprotected</i>	2.58	0.43	0.09	0.29	0.69	0.45	0.24	0.28	1.44	1.26	7.74
<i>Bare Protected</i>	0.95	3.75	23.44	0.00	30.82	24.39	0.00	16.87	3.90	5.48	109.60
<i>Bare Unprotected</i>	272.25	131.44	90.83	133.42	297.82	249.06	77.39	123.08	101.87	79.56	1,556.72
<i>Wrought Iron</i>	101.65	27.81	0.00	7.23	23.58	1.73	8.11	45.71	11.11	0.00	226.93
<i>Total</i>	440.56	181.79	114.36	140.98	352.92	275.63	85.73	185.96	118.32	86.31	1,982.55

DPS-73
Page 2 of 3
Witness: House

NATIONAL FUEL GAS DISTRIBUTION CORPORATION
NEW YORK DIVISION
RESPONSE TO DEPARTMENT OF PUBLIC SERVICE
REQUEST FOR INFORMATION
CASE 16-G-0257

2) See tables below.

<i>CY2011 (Miles)</i>	<i>MSW</i>	<i>TOSC</i>	<i>BASC</i>	<i>CLSC</i>	<i>OPSC</i>	<i>DUSC</i>	<i>SALD</i>	<i>WELD</i>	<i>JAMD</i>	<i>NFSC</i>	<i>Total</i>
<i>Cast Iron</i>	2.36	3.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	5.95
<i>Coated Unprotected</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<i>Bare Protected</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<i>Bare Unprotected</i>	6.60	8.15	2.74	8.81	20.01	12.77	1.21	2.41	2.99	4.50	70.18
<i>Wrought Iron</i>	0.65	0.96	0.00	0.00	1.38	0.00	0.00	1.41	0.00	0.00	4.41
<i>Leak-prone Plastic</i>	0.04	0.00	0.00	0.00	0.00	1.79	0.00	0.00	0.00	0.00	1.83
Total	9.65	12.65	2.74	8.81	21.39	14.56	1.21	3.82	2.99	4.54	82.36

<i>CY2012 (Miles)</i>	<i>MSW</i>	<i>TOSC</i>	<i>BASC</i>	<i>CLSC</i>	<i>OPSC</i>	<i>DUSC</i>	<i>SALD</i>	<i>WELD</i>	<i>JAMD</i>	<i>NFSC</i>	<i>Total</i>
<i>Cast Iron</i>	7.00	4.92	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	11.97
<i>Coated Unprotected</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<i>Bare Protected</i>	0.00	0.00	0.00	0.00	0.28	0.00	0.00	0.00	0.02	0.00	0.30
<i>Bare Unprotected</i>	8.95	4.17	3.36	4.03	11.71	12.56	2.14	4.93	4.67	3.49	60.02
<i>Wrought Iron</i>	0.64	0.85	0.00	0.00	1.35	0.00	0.00	2.91	0.00	0.00	5.74
<i>Leak-prone Plastic</i>	1.20	0.29	0.22	0.00	1.54	0.43	0.00	0.08	0.00	0.00	3.76
Total	17.79	10.23	3.58	4.03	14.88	13.04	2.14	7.92	4.69	3.49	81.79

<i>CY2013 (Miles)</i>	<i>MSW</i>	<i>TOSC</i>	<i>BASC</i>	<i>CLSC</i>	<i>OPSC</i>	<i>DUSC</i>	<i>SALD</i>	<i>WELD</i>	<i>JAMD</i>	<i>NFSC</i>	<i>Total</i>
<i>Cast Iron</i>	5.35	4.80	0.00	0.00	0.00	0.00	0.00	0.30	0.00	0.07	10.51
<i>Coated Unprotected</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<i>Bare Protected</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<i>Bare Unprotected</i>	6.96	4.35	6.27	4.66	19.60	12.33	2.12	2.08	4.03	2.51	64.91
<i>Wrought Iron</i>	1.00	0.44	0.00	0.10	1.83	0.00	0.30	0.36	0.00	0.00	4.03
<i>Leak-prone Plastic</i>	0.00	0.00	1.31	0.00	0.00	0.16	0.00	0.00	0.00	0.00	1.47
Total	13.30	9.59	7.58	4.76	21.43	12.49	2.41	2.74	4.03	2.58	80.92

<i>CY2014 (Miles)</i>	<i>MSW</i>	<i>TOSC</i>	<i>BASC</i>	<i>CLSC</i>	<i>OPSC</i>	<i>DUSC</i>	<i>SALD</i>	<i>WELD</i>	<i>JAMD</i>	<i>NFSC</i>	<i>Total</i>
<i>Cast Iron</i>	7.07	3.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	10.98
<i>Coated Unprotected</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<i>Bare Protected</i>	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.88	0.00	0.61	1.53
<i>Bare Unprotected</i>	11.65	8.11	5.58	4.13	18.13	17.17	2.43	4.26	5.08	3.63	80.19
<i>Wrought Iron</i>	1.09	0.85	0.00	0.00	0.37	0.00	0.03	0.20	0.00	0.00	2.54
<i>Leak-prone Plastic</i>	0.00	0.01	0.01	0.07	0.02	0.00	0.00	0.36	0.00	0.32	0.81
Total	19.82	12.87	5.60	4.20	18.52	17.21	2.46	5.71	5.08	4.58	96.04

DPS-73
Page 3 of 3
Witness: House

NATIONAL FUEL GAS DISTRIBUTION CORPORATION
NEW YORK DIVISION
RESPONSE TO DEPARTMENT OF PUBLIC SERVICE
REQUEST FOR INFORMATION
CASE 16-G-0257

<i>CY2015 (Miles)</i>	<i>MSW</i>	<i>TOSC</i>	<i>BASC</i>	<i>CLSC</i>	<i>OPSC</i>	<i>DUSC</i>	<i>SALD</i>	<i>WELD</i>	<i>JAMD</i>	<i>NFSC</i>	<i>Total</i>
<i>Cast Iron</i>	6.53	3.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	10.41
<i>Coated Unprotected</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<i>Bare Protected</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<i>Bare Unprotected</i>	18.06	6.47	3.72	2.78	12.40	19.82	3.38	4.95	6.61	2.53	80.72
<i>Wrought Iron</i>	1.98	2.21	0.00	0.05	0.06	0.06	0.00	0.79	0.00	0.00	5.14
<i>Leak-prone Plastic</i>	0.01	0.00	0.00	0.57	0.10	0.40	0.00	0.00	0.00	0.00	1.09
<i>Total</i>	26.58	12.55	3.72	3.40	12.56	20.27	3.38	5.74	6.61	2.54	97.35

3) The Company includes plastic pipe replacements on earlier vintage plastic pipe where rock impingement leaks, and/or visually questionable or leaking fusions have been discovered through the Company's Plastic System Failure Analysis and Remediation Program. Pipeline replacement projects identified under this program are designated with a 415P Activity and included in the Company's annual leak prone pipe replacement totals.

4) See response to UFR-84 (C-E)

DPS-158
Page 1 of 2
Witness: Boyle

NATIONAL FUEL GAS DISTRIBUTION CORPORATION
NEW YORK DIVISION
RESPONSE TO DEPARTMENT OF PUBLIC SERVICE
REQUEST FOR INFORMATION
CASE 16-G-0257

Question

Re: Barcelona Project – Capital Amount

The table on lines 3-7 of the direct testimony of Patrick Boyle, page 52, shows depreciation expense of \$4.6 million associated with for the new Barcelona Project. Per the Company response to information request (DPS-27) worksheet DPS-27-1, the Company estimates the Project's capital cost to be \$65 million in total.

- 1.) Provide the actual Barcelona capital incurred to date in total and allocated to New York Distribution.
- 2.) Provide the Spanos exhibits, workpapers and schedules showing the Barcelona Project amount going into New York Distribution Plant-in-Service. The exhibits, workpapers and schedules should show the amount and date of in service.
- 3.) The Company has forecast an in service date of May 2016 for the Barcelona Project. Has the Company completed the project? If yes, provide the date. If no, provide the estimated date the Barcelona Project will be in service date.
- 4.) Does the company plan to incur any additional Barcelona Project capital additions after the in service date? If yes, provide the dates, amounts, reasons, explanations, capital budget approvals, workpapers and all other support for the amounts of capital additions.

Response

- 1) Please see attached spreadsheet "DPS-158 CIS-Barcelona Project FINAL thru May2016.xlsx" worksheet "DPS 87 2 and 4". This is the same spreadsheet the Company provided in responding to DPS-87, but it has been updated by one additional month through May 31, 2016.
- 2) Please refer to Exhibit_(DNK-3) Schedule 1, Sheet 3. The Barcelona project went into Plant-in-Service during May, 2016 in the amount of \$38,199,000 (NY allocation). An additional amount of \$7,600,000 had been estimated to go in service at March, 2017.
- 3) The system was implemented on May 9, 2016. All functionality has not yet been implemented and some reports have not yet been completed by the systems integrator HCL as they were not needed at go-live. The original

DPS-158
Page 2 of 2
Witness: Boyle

NATIONAL FUEL GAS DISTRIBUTION CORPORATION
NEW YORK DIVISION
RESPONSE TO DEPARTMENT OF PUBLIC SERVICE
REQUEST FOR INFORMATION
CASE 16-G-0257

contract with HCL (the entire HCL contract was submitted with the Company's response to DPS-91) had a defined six-month period after implementation to resolve problems, complete reports and developments, and conduct knowledge transfer to Company staff.

The Company has been very proactive in monitoring and controlling this project's costs and as a result, is lowering the projected actual total capital cost from \$65 million to \$60 million. Due to the nature of the fixed price contract and change orders with our systems integrator (HCL), the actual final project capital costs will not be incurred (booked) until at least December 2016.

4) Please see the Company's response to DPS-140 question #2.

DPS-87
Page 1 of 2
Witness: Boyle

NATIONAL FUEL GAS DISTRIBUTION CORPORATION
NEW YORK DIVISION
RESPONSE TO DEPARTMENT OF PUBLIC SERVICE
REQUEST FOR INFORMATION
CASE 16-G-0257

Question

Re: New CIS – Capital & Expense

The Company's response to (DPS-21) (Revised) states: "All costs (capital and expense) related to the new CIS application were tracked separately in department IDs (Department ID 1295 and 4295) setup specifically for the new system. The project had its' own capital and expense budgets."

- 1.) Provide the monthly amount and monthly cumulative amounts charged to capital accounts associated with the new CIS Barcelona system since its inception. Provide all backup supporting the capital expenditures. Provide these amounts by type of Capital Expenditure (i.e., Equipment, Hardware, Software, Contractors, Capitalized Internal Labor, Employee Benefits, Office Employee Expense, etc.). Provide all accounts used, Department IDs, calculations, workpapers, source documents, descriptions and explanations.
- 2.) Provide, by fiscal year, the total project capital costs as of May 31, 2016, and identify the amount of costs allocated to each affiliate, as well as the basis of the affiliate allocations. Provide all studies, workpapers, calculation and explanations.
- 3.) Provide the monthly amount and monthly cumulative amounts charged to O&M Expense accounts associated with the new CIS Barcelona system since its inception. Provide all backup supporting the expenditures. Provide by type of expenditure (i.e., Equipment, Hardware, Software, Contractors, Internal Labor, Employee Benefits, Office Employee Expense, etc.). Provide all accounts, Department IDs, calculations, workpapers, source documents, descriptions and explanations.
- 4.) Provide, by fiscal year, the total project O&M expenses as of May 31, 2016, and identify the amount of O&M expenses allocated to each affiliate, as well as the basis of the affiliate O&M allocations. Provide all studies, workpapers, calculations and explanations.
- 5.) Provide the budget versus actuals and associated budget variance explanation on a calendar basis since the CIS-Barcelona project began. (By Capital and O&M.)

Response

- 1.) Please see attached spreadsheet "DPS-87 CIS-Barcelona Project MD-JS through 30April2016.xlsx" worksheet "DPS 87 1".
- 2.) Please see attached spreadsheet "DPS-87 CIS-Barcelona Project MD-JS through 30April2016.xlsx" worksheet "DPS 87 2 and 4".

DPS-87
Page 2 of 2
Witness: Boyle

NATIONAL FUEL GAS DISTRIBUTION CORPORATION
NEW YORK DIVISION
RESPONSE TO DEPARTMENT OF PUBLIC SERVICE
REQUEST FOR INFORMATION
CASE 16-G-0257

- 3.) Please see attached spreadsheet "DPS-87 CIS-Barcelona Project MD-JS through 30April2016.xlsx" worksheet "DPS 87 3".
- 4.) Please see attached spreadsheet "DPS-87 CIS-Barcelona Project MD-JS through 30April2016.xlsx" worksheet "DPS 87 2 and 4".
- 5.) Providing budget variations on a month by month basis will show significant variations due to the structure of the HCL contract which accounts for 50% of the total project costs. To control costs, the contract was structured as milestone based, with the Company making payments to HCL only as HCL deliverables were accepted by the Company. The Company did its best to accurately estimate when the milestone payments would occur at the time of HCL contract signing (see in the HCL Statement of Work - Section 8 Pricing, Payment, and Schedule) but given the overall scope and complexity of this project, variance reporting on a calendar basis was not particularly helpful in this context. Rather, the Company managed against the overall project budget. Monthly expense variances can be seen in the attachments submitted in the Company's response to DPS-65 2d) the Monthly O&M Budget Reports for Barcelona.

DPS-92
Page 1 of 1
Witness: John J. Spanos

NATIONAL FUEL GAS DISTRIBUTION CORPORATION
NEW YORK DIVISION
RESPONSE TO DEPARTMENT OF PUBLIC SERVICE
REQUEST FOR INFORMATION
CASE 16-G-0257

Re: Depreciation

1. Provide the following mortality curves summarized in the table below. Plot all mortality curves for each account on the same graph with observed data. For each mortality curve, provide plots with data tables of the residuals, which are the distance between the observed value and the mortality curve.

Account Number	Account Name	Mortality Curves
367.1	Mains – Excluding Cathodic Protection	65-R2.5, 65-R3, 70-R2.5, 70-R3
375	Structures and Improvements	75-R2.5, 75-R3, 75-R3.5
376.4	Mains – Plastic	70-R3, 75-R3, 80-R3
390.1	Structures and Improvements – large structures	65-O1.5, 70-O1.5, 70-O0.5
390.2	Structures and Improvements – small structures	30-O3, 30-O4, 35-O3, 35-O4

2. Provide plots and data tables of residuals for each of the mortality curves listed in UFR-106.

Response

1. The survivor curves set forth in the table above are presented in DPS-92 Attachment A.pdf in graphical form. The residuals for each survivor curve based on the entire original curve by account is set forth in DPS-92 Attachment B.pdf. Please note no curves were plotted for Account 390.1 because the listed curves are not part of the O-family.
2. The survivor curves listed in UFR-106 have been plotted in DPS-92 Attachment C.pdf. Please note only the lowa curves were presented since our software no longer calculates the residuals for h-curves. The residuals for each survivor curve based on the entire original curve by account is set forth in DPS-92 Attachment D.pdf.

**NATIONAL FUEL GAS DISTRIBUTION CORPORATION
NEW YORK DIVISION**

CURVES, BANDS AND RESIDUALS PER DPS-92, PART 1 CONSISTENT WITH DEPRECIATION STUDY

ACCOUNT		SURVIVOR	BAND	RESIDUAL
(1)		CURVE	(3)	MEASURE
		(2)		(4)
367.1	MAINS - EXCLUDING CATHODIC PROTECTION	65-R2.5	1962-2015	5.42
		65-R3	1962-2015	6.09
		70-R2.5	1962-2015	5.61
		70-R3	1962-2015	5.39
375	STRUCTURES AND IMPROVEMENTS	75-R2.5	1962-2015	24.29
		75-R2.5	1996-2015	17.45
		75-R3	1962-2015	26.03
		75-R3	1996-2015	19.09
		75-R3.5	N/A	N/A
376.4	MAINS - PLASTIC	70-R3	1982-2015	1.00
		70-R3	1996-2015	1.56
		75-R3	1982-2015	1.61
		75-R3	1996-2015	2.18
		80-R3	1982-2015	2.19
		80-R3	1996-2015	2.75
390.2	STRUCTURES AND IMPROVEMENTS - SMALL STRUCTURES	30-O3	1962-2015	5.03
		30-O3	1996-2015	7.06
		30-O4	1962-2015	5.60
		30-O4	1996-2015	6.24
		35-O3	1962-2015	4.50
		35-O3	1996-2015	10.63
		35-O4	1962-2015	3.86
		35-O4	1996-2015	8.88

**NATIONAL FUEL GAS DISTRIBUTION CORPORATION
NEW YORK DIVISION**

CURVES, BANDS AND RESIDUALS CONSISTENT WITH UFR-106

	ACCOUNT	SURVIVOR	BAND	RESIDUAL
	(1)	CURVE	(3)	MEASURE
		(2)		(4)
325.4	RIGHTS OF WAY	60-S4	1962-2015	46.70
327	COMPRESSOR STATION STRUCTURES	35-R5	1977-2015	9.46
328	MEASURING AND REGULATING STATION STRUCTURES	50-R4	1962-2015	40.48
332	FIELD LINES	58-R3	1961-2015	3.33
333	COMPRESSOR STATION EQUIPMENT	25-S2.5	1975-2015	8.15
334	MEASURING AND REGULATING STATION EQUIPMENT	32-R0.5	1961-2015	4.32
365.2	RIGHTS OF WAY	80-R4	1961-2015	54.71
366.2	STRUCTURES AND IMPROVEMENTS	60-R1.5	1962-2015	14.42
367.1	MAINS - EXCLUDING CATHODIC PROTECTION	65-R2	1961-2015	6.04
367.2	MAINS - CATHODIC PROTECTION	25-S0.5	1971-2015	10.22
369	MEASURING AND REGULATING STATION EQUIPMENT	40-R1	1962-2015	7.47
374.2	RIGHTS OF WAY	80-R4	1961-2015	57.29
375	STRUCTURES AND IMPROVEMENTS	70-R2.5	1962-2015	28.08
376.1	MAINS - CAST IRON	73-S1	1962-2015	2.87
376.2	MAINS - STEEL AND OTHER	73-S1	1962-2015	2.87
	1939 AND PRIOR	58-R1.5	1961-2015	1.30
	1940 AND SUBSEQUENT			
376.3	MAINS - CATHODIC PROTECTION	25-S0.5	1971-2015	10.22
376.4	MAINS - PLASTIC	60-R3	1982-2015	2.51
377	COMPRESSOR STATION EQUIPMENT	35-S2.5	1989-2015	7.16
378	MEASURING AND REGULATING STATION EQUIPMENT	45-O1	1961-2015	9.99
380	SERVICES	55-R0.5	1961-2015	5.31
381	METERS	36-S1.5	1961-2015	2.05
382	METER INSTALLATIONS	55-R0.5	1961-2015	5.31
384	HOUSE REGULATOR INSTALLATIONS	55-R0.5	1961-2015	5.31
385	INDUSTRIAL MEASURING AND REGULATING STATION EQUIPMENT	55-R1.5	1961-2015	21.89
387	OTHER EQUIPMENT	38-R4	1967-2015	4.73
389.2	RIGHTS OF WAY	60-R4	1982-2015	1.09
390.1	STRUCTURES AND IMPROVEMENTS - LARGE STRUCTURES	65-R0.5	1961-2015	4.95
390.2	STRUCTURES AND IMPROVEMENTS - SMALL STRUCTURES	30-L0.5	1961-2015	12.27
390.3	STRUCTURES AND IMPROVEMENTS - CACs	55-R2	2000-2015	1.09

Case 16-G-0257
National Fuel Gas Rates

Staff of the Department of Public Service
Interrogatory/Document Request

Request No.: DPS-143
Requested By: Scott McAdoo
Date of Request: June 28, 2016
Reply Due Date: July 11, 2016
Witness: John J Spanos
Subject: Depreciation

In these interrogatories, all requests for workpapers or supporting calculations should be construed as requesting any Word, Excel or other computer spreadsheet models in original electronic format with all formulae intact.

Re: Depreciation

1. Can the Company support use of a 10 year amortization period for their new CIS system with reports or studies? If so, provide each report or study.
2. Staff reviewed the Company's current depreciation rates as shown on pre-filed IR-102 (Spanos) and compared them to the annual reports filed since Case 07-G-0141. The review resulted in discrepancies in accounts 376.1, 376.3, 376.4, 391.1, 391.2, 394.1, 394.2, 394.3, 396 and 397.
 - a) Reconcile the depreciation rates reported on pre-filed IR-102 (Spanos) and the annual reports filed since Case 07-G-0141.
3. Plot the following depreciation curves on the same graph with observed data for Account 367.1 Mains Excluding Cathodic Protection, 70-R3 and 65-R2.
4. Plot the following depreciation curves on the same graph with observed data for Account 375 Structures and Improvements, 75-R2.5 and 70-R2.5.
5. Plot the following depreciation curves on the same graph with observed data for Account 376.4 Mains - Plastic, 70-R3 and 60-R3.
6. Plot the following depreciation curves on the same graph with observed data for Account 390.2 Structures and Improvements – small structures, 35-O4 and 30-L0.5.

Response:

- 1) The 10-year amortization period was approved for Account 303, Miscellaneous Intangible Plant in rate case 07-G-0141. A 10-year amortization period for software applications for the CIS system is the most commonly utilized period by others and reflects the expected useful life of this application.
- 2) There are no discrepancies between IR-102 and the annual reports. The difference between rates for Accounts 376.1, 376.3 and 376.4 set forth in IR-102 and Case 07-G-0141 relates only to presentation of the subaccounts.

In the annual report to the PSC, Account 376.1 is plastic mains, however in IR-102, plastic mains is 376.4. The rates are the same.

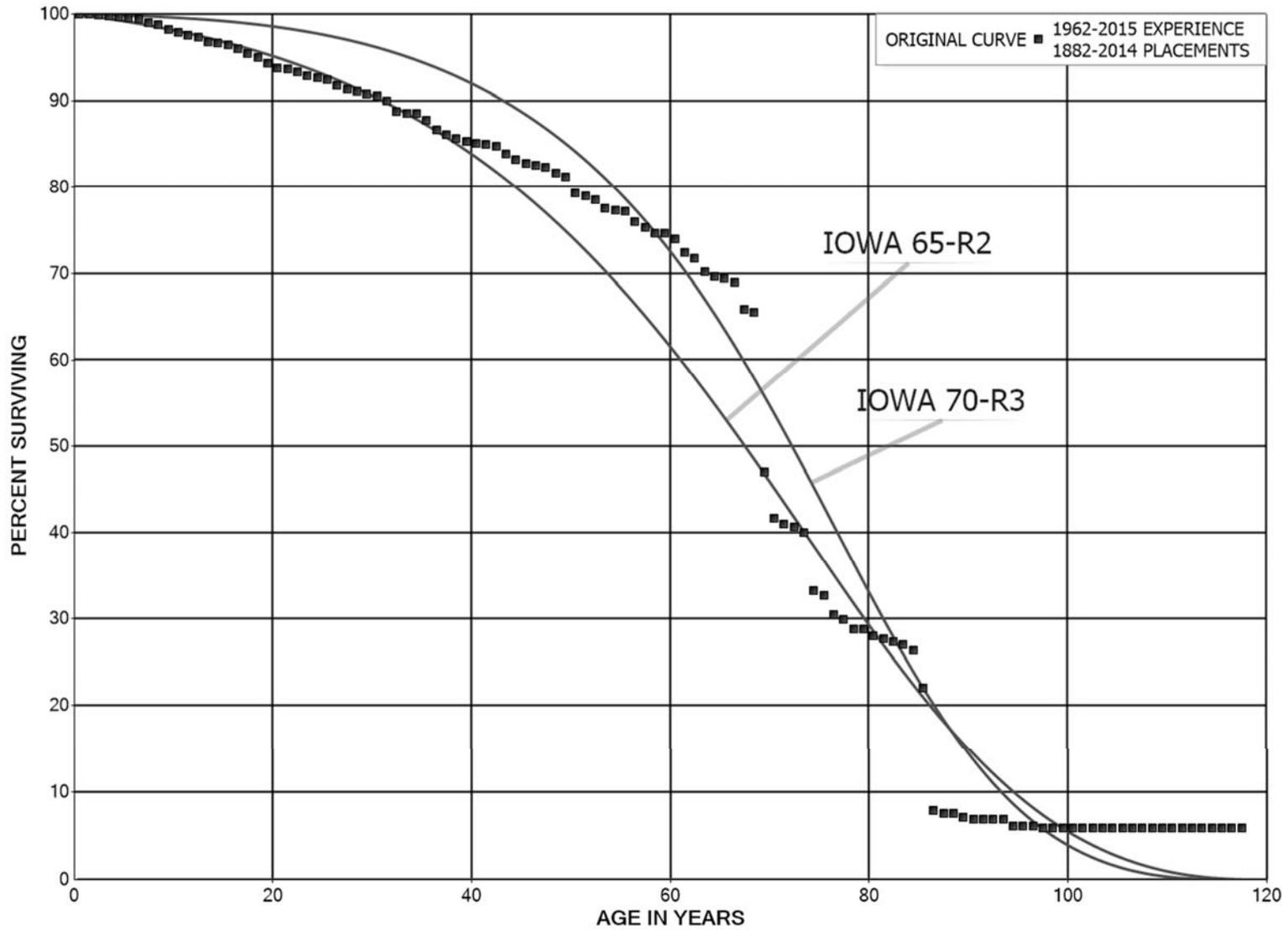
In the annual report to the PSC, Account 376.3 represents valves, however, in IR-102 these assets are included with the various mains. The 2.37% for valves is the composite rate of all mains.

In the annual report to the PSC, Account 376.4 represents cathodic protection, however in IR-102 cathodic protection is 376.3. The rates are the same.

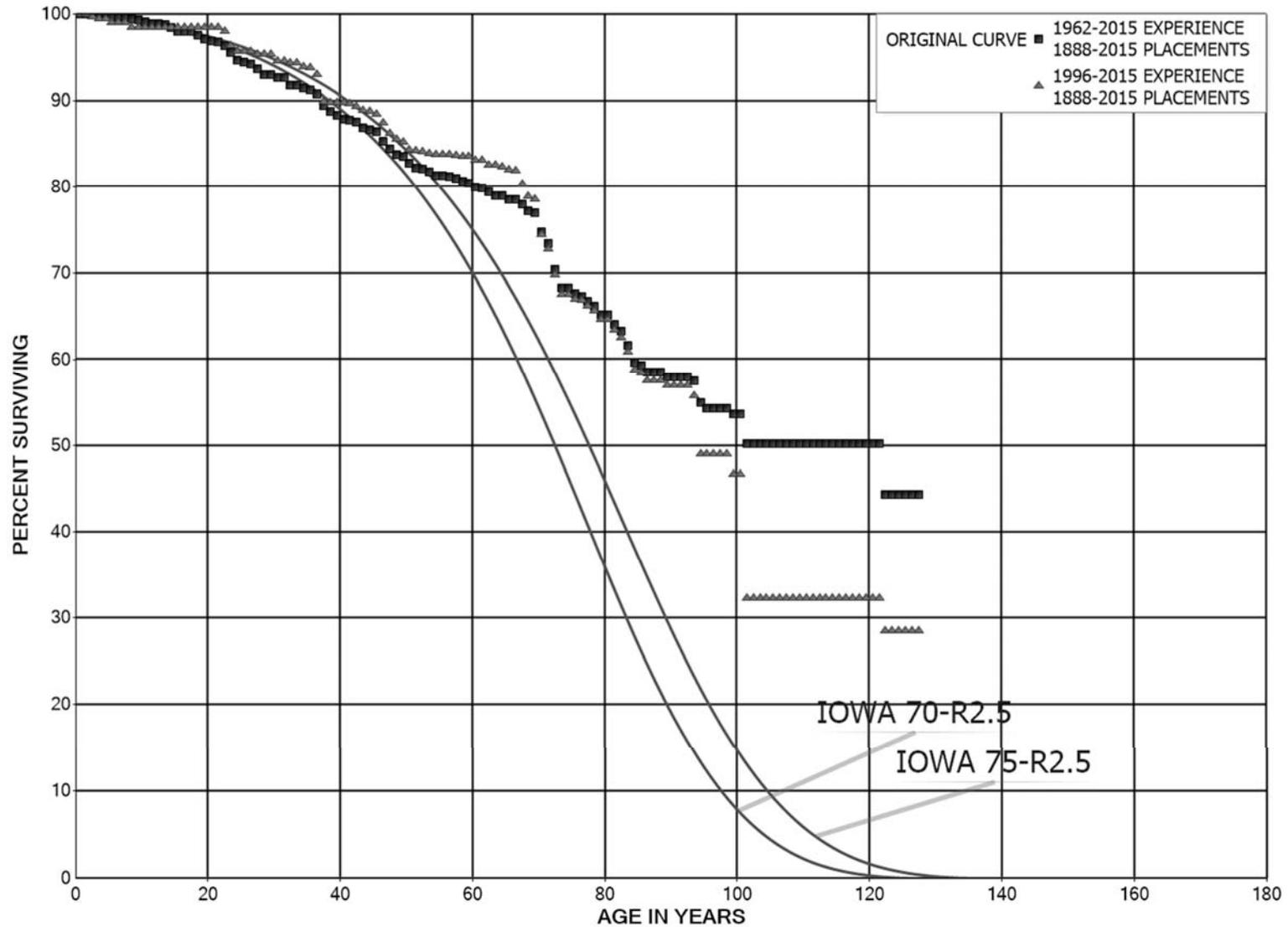
In Account 391.1, 391.2, 394.1, 394.2, 394.3 and 397, these accounts are amortized. IR-102 represents the amortization rate for all assets, however, the annual report to the PSC maintained the existing rates for the existing assets and applied the IR-102 rates to new assets as of 2006. For Account 396, all assets are depreciated by unit, however, the current rates show the composite rate. Both reports utilize a 10-year life.

- 3) DPS-A3 Attachment A.pdf includes the graph of the 70-R3 and 65-R2 for Account 367.1, Mains Excluding Cathodic Protection.
- 4) DPS-143 Attachment B.pdf includes the graph of the 75-R2.5 and 70-R2.5 for Account 375, Structure and Improvements.
- 5) DPS-143 Attachment C.pdf includes the graph of the 70-R3 and 60-R3 for Account 376.4, Mains – Plastic.
- 6) DPS-143 Attachment D.pdf includes the graph of the 35-O4 and 30-L0.5 for Account 390.2, Structures and Improvements. Additionally, it should be noted that the O4 type curve is not considered a reasonable dispersion pattern for utility assets utilized by National Fuel.

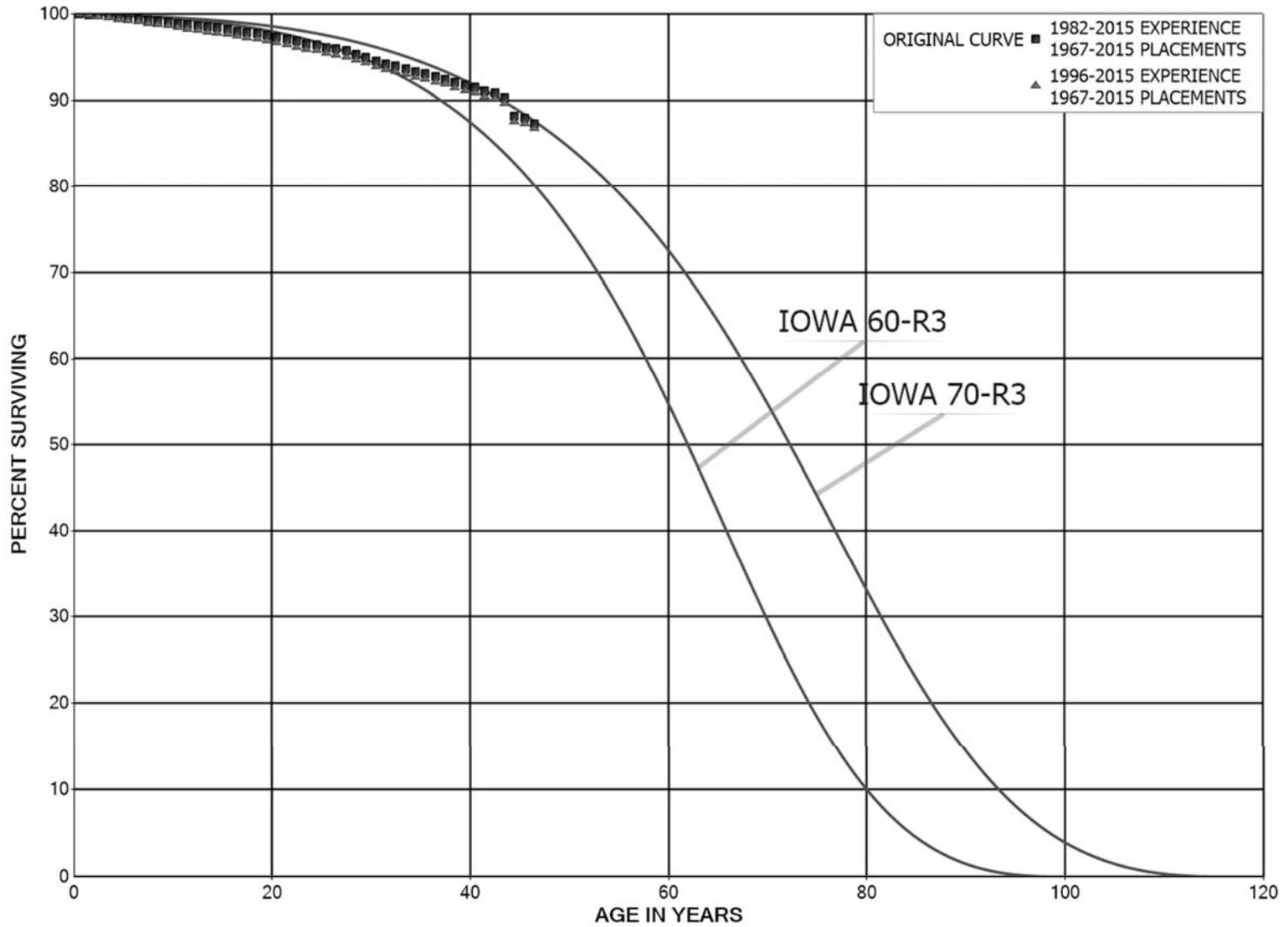
NATIONAL FUEL GAS DISTRIBUTION CORPORATION
NEW YORK DIVISION
ACCOUNT 367.1 MAINS - EXCLUDING CATHODIC PROTECTION
ORIGINAL AND SMOOTH SURVIVOR CURVES



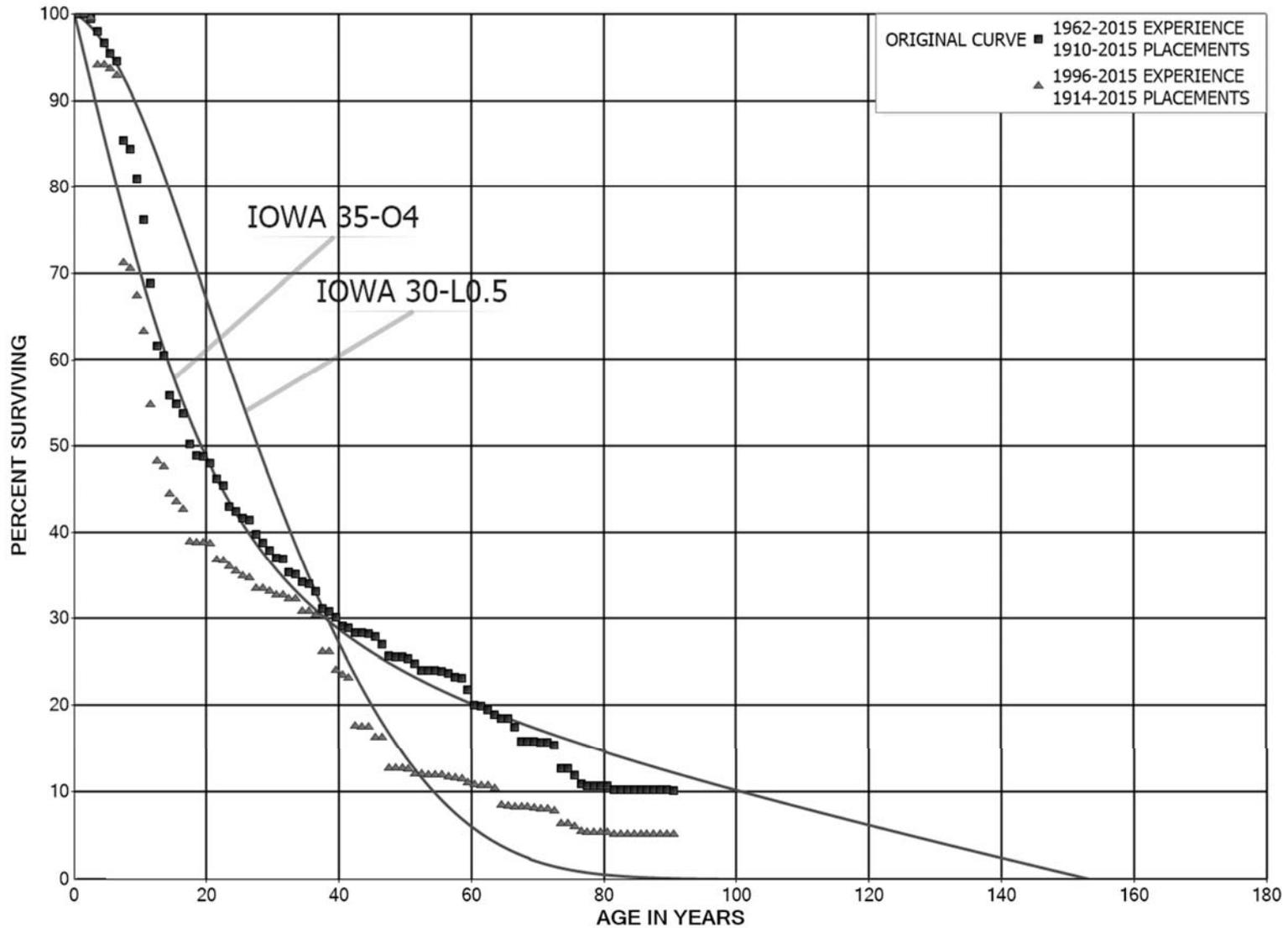
NATIONAL FUEL GAS DISTRIBUTION CORPORATION
NEW YORK DIVISION
ACCOUNT 375 STRUCTURES AND IMPROVEMENTS
ORIGINAL AND SMOOTH SURVIVOR CURVES



NATIONAL FUEL GAS DISTRIBUTION CORPORATION
NEW YORK DIVISION
ACCOUNT 376.4 MAINS - PLASTIC
ORIGINAL AND SMOOTH SURVIVOR CURVES



NATIONAL FUEL GAS DISTRIBUTION CORPORATION
NEW YORK DIVISION
ACCOUNT 390.2 STRUCTURES AND IMPROVEMENTS - SMALL STRUCTURES
ORIGINAL AND SMOOTH SURVIVOR CURVES



NATIONAL FUEL GAS DISTRIBUTION CORPORATION
NEW YORK DIVISION
RESPONSE TO UTILITY FILING REQUIREMENTS
REQUEST FOR INFORMATION
CASE 16-G-

Question

103. Provide the rolling and shrinking band analysis for each of the accounts in the mortality study. This should include the fit Index, average service life, and h-curve (at a minimum) with an explanation of their determination. For the chosen band in each account, provide a plot of the observed curve, smoothed curve and h-curve.

Response

The attached files set forth the rolling and shrinking band analysis that was conducted for each account. For each band, the curve fitting index, and best life and lowa curve combination is shown.

Please see Exhibit __ (JJS-2), Section VII for the chosen bands, original curve and smooth curve for each account.

DPS-207
Page 1 of 5
Witness: House

NATIONAL FUEL GAS DISTRIBUTION CORPORATION
NEW YORK DIVISION
RESPONSE TO DEPARTMENT OF PUBLIC SERVICE
REQUEST FOR INFORMATION
CASE 16-G-0257

Question

Leak Prone Pipe and Plastic Mains

1. On page 3, lines 5 through 15, of the Direct Testimony of Testimony of Kevin D. House, the witness states that unprotected bare steel, unprotected coated steel, protected bare steel, cast iron, wrought iron and certain earlier vintages of plastic piping are included in the Company's definition of leak prone pipe. Provide the following:
 - a) The specific plastic material types found within the Company's system (e.g. Aldyl-A, ABS, Epoxy Fiberglass, Polyethylene, Polyamide, etc.).
 - b) The specific plastic material types, as identified in 1-A, considered by the Company to be leak prone.
 - c) The specific plastic material types, as identified in 1-A, considered by the Company not to be leak prone.
 - d) Reasoning as to why the Company included each specific material type in its definition of leak prone (brittleness, susceptibility to cracking, leakage history, etc.).
 - e) Are the specific plastic material types, as identified in 1-B, included in the leak prone pipe replacement program?
2. For each plastic material type found in the Company's system, identified in 1) a) above, give the date the Company first implemented the plastic main type, the mileage of pipe made from each material, and the cost of each pipe.
3. Does the Company have a proactive program to replace the LPP specified in 1)b)?
4. Specify the mileage of piping made from a material specified in 1)a) that has been retired in the Company's System, when it was retired and the cost to replace the piping.
5. Divide plastic mains account 376.4 into subaccounts based on piping material and provide in excel format.

Response

DPS-207
Page 2 of 5
Witness: House

NATIONAL FUEL GAS DISTRIBUTION CORPORATION
NEW YORK DIVISION
RESPONSE TO DEPARTMENT OF PUBLIC SERVICE
REQUEST FOR INFORMATION
CASE 16-G-0257

1. a)

Plastic Pipe Types	Material
Uponor UAC 2000 (Yellow)	Polyethylene
Du Pont Aldyl "A"/Uponor Aldyl (ochre)	Polyethylene
Plexco P23BC (orange)	Polyethylene
Plexco P24BC (yellow)	Polyethylene
Driscopipe 6500 (yellow)	Polyethylene
Driscoplex x 6500 (yellow)	Polyethylene
Driscopipe 8000 (black)	Polyethylene
Extron (orange/red)	Polyethylene
Conid Mark II (orange)	Polyethylene
Charter Plastics (black with yellow stripe)	Polyethylene
Performance Pipe – Yellow Stripe 8300 (Black with yellow stripe)	Polyethylene
Uponor (black with yellow stripe)	Polyethylene
EFG	Epoxy- Fiberglass

- b) The Company considers specific segments of any plastic material type, that has exhibited leakage or the potential for leakage due to material composition, joint type/quality or installation practices, and that require replacement to insure public safety, to be leak prone. Certain plastic pipe vintages and materials have been identified by the Company and the industry to be more susceptible to leakage than others. See response to 1.d) below for more information.
- c) The Company has not established a designation of "leak prone" or "non-leak prone" to any specific plastic material types. See response to 1.b) above and 1.d) below for additional information.
- d) See excerpts below from the Company's Distribution Integrity Management Plan that identifies threats associated with plastic pipe.

6.2.5 Pipe, Weld or Joint Failure

2. Vintage Plastic Pipe (Pre-1982 PE / EFG / PVC / Drisco8000)

Pre-1982 PE Pipe

The Company began installing Polyethylene (PE) pipe in the late 1960's. Section 1.2.1 of the Company's Operating Procedures Manual identifies the

DPS-207
Page 3 of 5
Witness: House

NATIONAL FUEL GAS DISTRIBUTION CORPORATION
NEW YORK DIVISION
RESPONSE TO DEPARTMENT OF PUBLIC SERVICE
REQUEST FOR INFORMATION
CASE 16-G-0257

various manufacturers and sizes of PE pipe that have been installed in the distribution system.

In March of 1999 PHMSA issued advisory bulletin ADB-99-02, informing natural gas distribution system operators of the potential for brittle-like cracking vulnerability of plastic pipe installed between the 1960s and mid 1980s. The phenomenon of brittle-like cracking in plastic pipe relates to a part-through crack initiation in the pipe wall followed by stable crack growth at stress levels much lower than the stress required for yielding, resulting in a very tight slit-like opening and gas leak. Premature brittle-like cracking requires relatively high localized stress intensification that may be a result from geometrical discontinuities, excessive bending, improper fitting assemblies, and/or dents and gouges. PHMSA Advisory Bulletin ADB-99-02 recommends that all owners and operators of natural gas distribution systems identify all pre-1982 plastic pipe installations, analyze leak histories, evaluate any conditions that may impose high stresses on the pipe, and take appropriate remedial action, including replacement, to mitigate any risks to public safety.

The susceptibility of some polyethylene pipes to brittle-like cracking is dependent on the resin type, manufacturing process and service conditions. A number of studies have been conducted on older polyethylene pipe that have shown that some of these older polyethylene pipes are more susceptible to brittle-like cracking than modern materials.

These older polyethylene pipe materials found in the distribution system include:

- Low-ductile inner wall "Aldyl A" piping manufactured by DuPont Company before 1973
- High-Density Polyethylene (HDPE) gas pipe designated PE 3306
- Early generation Extron and Plexco

The environmental, installation, and service conditions under which vintage PE piping is used are factors that could lead to premature brittle-like cracking of these older materials. These conditions include, but are not limited to:

- Inadequate support and backfill during installation
- Improper backfill materials / rock impingement
- Improper squeeze-off practices
- Installation by planting or plowing
- Shear/bending stresses due to differential settlement resulting from

DPS-207
Page 4 of 5
Witness: House

NATIONAL FUEL GAS DISTRIBUTION CORPORATION
NEW YORK DIVISION
RESPONSE TO DEPARTMENT OF PUBLIC SERVICE
REQUEST FOR INFORMATION
CASE 16-G-0257

factors such as:

- Excavation in close proximity to polyethylene piping
- Frost heave
- Bending stresses due to pipe installations with bends exceeding recommended practices

EFG

Epoxy Fiberglass (EFG) or Red Thread Pipe was used as an alternative to steel pipe in the early 1970's. EFG pipe has a relatively thin wall and was joined by solvent glue or mechanical couplings at steel and plastic pipe tie-in locations. Most EFG applications were installed via insertions where the pipe is protected from damage. This pipe is difficult to repair and requires extra care during excavation to avoid damage.

Drisco8000 HDPE

Driscopipe 8000 high density polyethylene (HDPE) plastic pipe was first installed in the mid-1970's and used predominantly for service line tubing and some larger diameter (6" and 8") mainline applications. The pipe is black in appearance and does not have a yellow stripe.

In March of 2012, PHMSA issued advisory bulletin ABD-12-03, alerting natural gas pipeline operators of the potential for material degradation in Drisco8000 HDPE pipe. Degradation has been identified on pipe between ½" to 2" in diameter that was installed between 1978 and 1999 in desert-like environments in the southwestern United States. Because a root cause of the degradation has not been determined, PHMSA could not say with certainty that this issue is isolated to these regions, operating environments, pipe sizes, or pipe installation dates. The advisory noted that the affected pipe displays delaminating or peeling of the outer diameter or a friable or crumbling appearance on the inner diameter surface of the pipe. Additionally, an audible cracking sound or noise may be detected when flexing, cutting, or squeezing the pipe.

The Company has installed Drisco8000 HDPE pipe in the past, but has not experienced any degradation issues.

DPS-207
Page 5 of 5
Witness: House

NATIONAL FUEL GAS DISTRIBUTION CORPORATION
NEW YORK DIVISION
RESPONSE TO DEPARTMENT OF PUBLIC SERVICE
REQUEST FOR INFORMATION
CASE 16-G-0257

- e. Yes. The Company includes replacements of specific segments of Aldyl A, Extron, Plexco and other plastic pipe types that have exhibited leakage or the potential for leakage due to brittle-like cracking, joint failures or poor quality joints, in its LPP replacement program. Replacements of these pipe types for other reasons (e.g. relocations for highway and municipal projects, system improvements, miscellaneous plastic replacements in conjunction with bare steel/CI/WI LPP replacement, etc.) are not included in the Company's LPP replacement totals. The Company has also not included the replacement of EFG in LPP replacement totals, unless it has been replaced due to leak history.
2. The Company does not maintain this data in a way that we can accurately provide the requested information. See attached DPS-207-2 for a schedule of polyethylene plastic mains by vintage year, for plastic mains currently in assets.
3. The Company does not have a program for the wholesale replacement of specific material types or vintages of plastic pipe. The Company does have a comprehensive plastic system failure investigation and remediation program to identify leak prone plastic main replacements, which are included in the Company's LPP Replacement Program.
4. See attached DPS-207-1 for a schedule of leak prone plastic main replacements from 2008 to present. The Company first included leak prone plastic mains in its LPP Replacement Program in 2008, as a result of the Order Establishing Rates for Gas Service, Issued and Effective December 21, 2007, in Case 7-G-0141. The Company identifies and tracks these replacements using capital budget appropriation 415P.
5. See attached DPS-207-2. Account 376.4 includes all plastic materials and is not subdivided into specific types of plastic materials. This account does not include EFG pipe.

UFR-102
Page 1 of 2
Witness: Spanos

NATIONAL FUEL GAS DISTRIBUTION CORPORATION
NEW YORK DIVISION
RESPONSE TO UTILITY FILING REQUIREMENTS
REQUEST FOR INFORMATION
CASE 16-G-

Question

102. Provide a side by side comparison of the present versus proposed depreciation characteristics (average service life, survivor curve, annual accrual rate and net salvage percentage) by plant account for both gas and common plant.

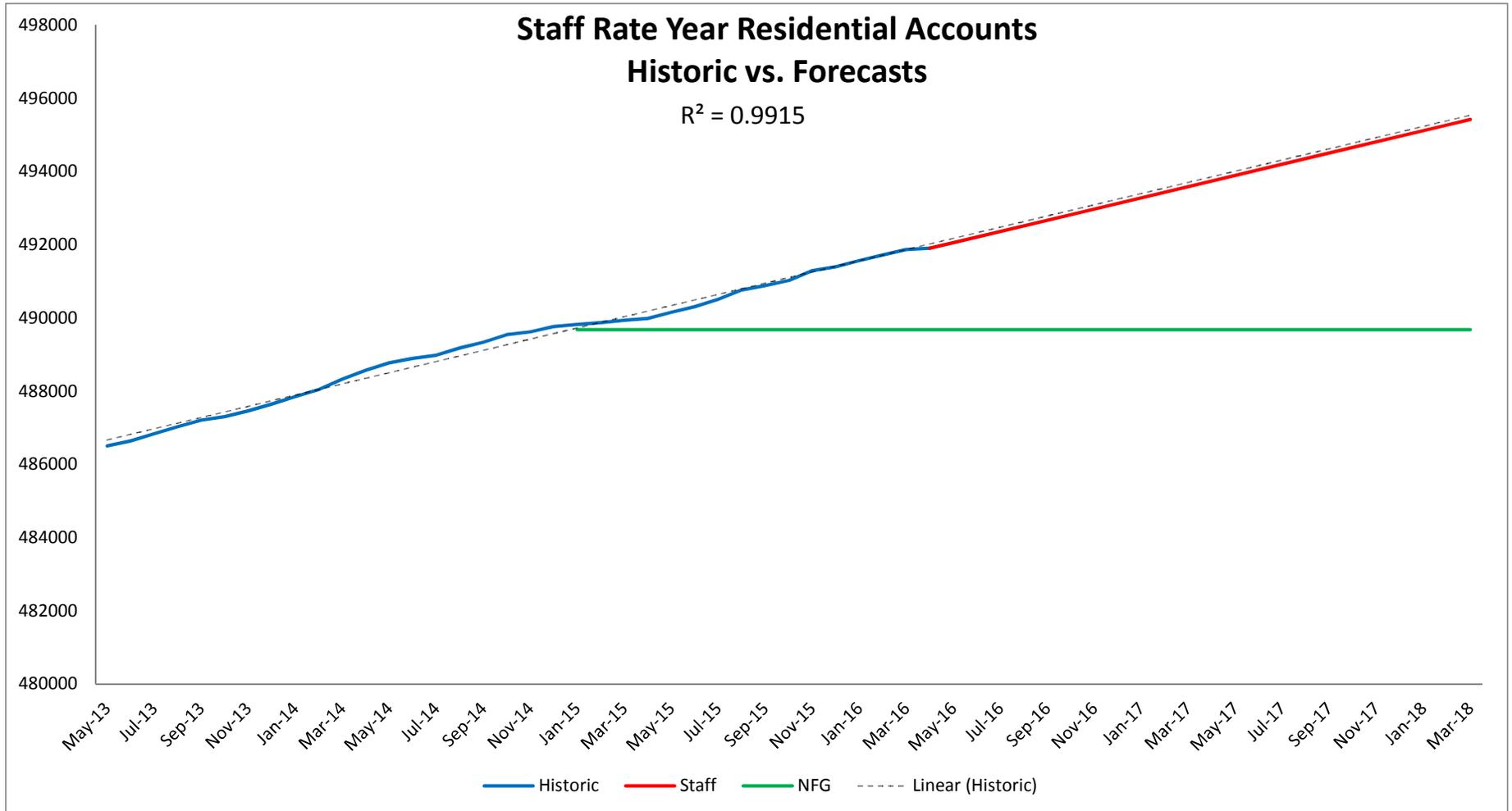
Response

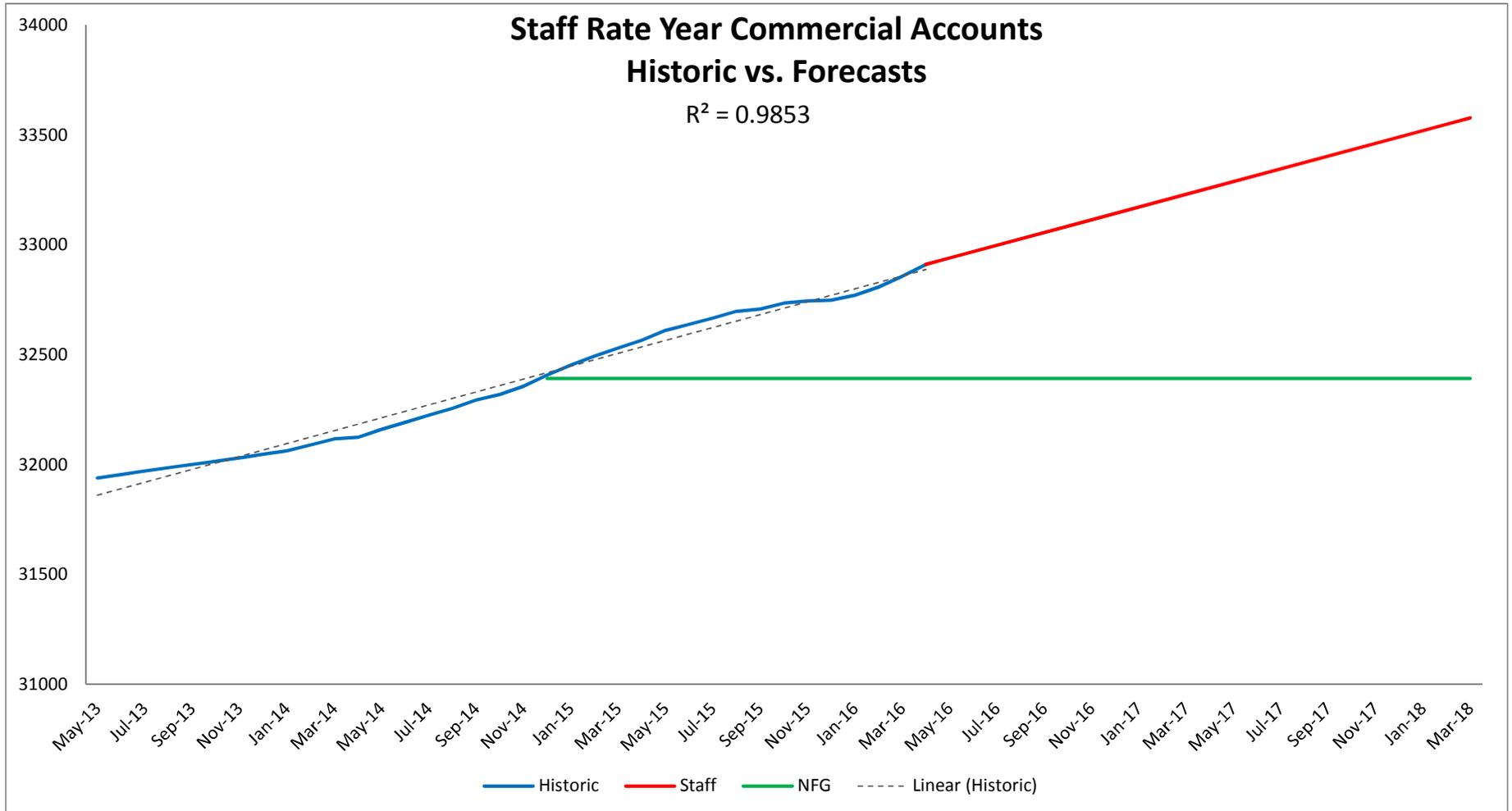
The attached schedule sets forth the current versus proposed average service life, survivor curve, net salvage percent and annual depreciation accrual rate by plant account.

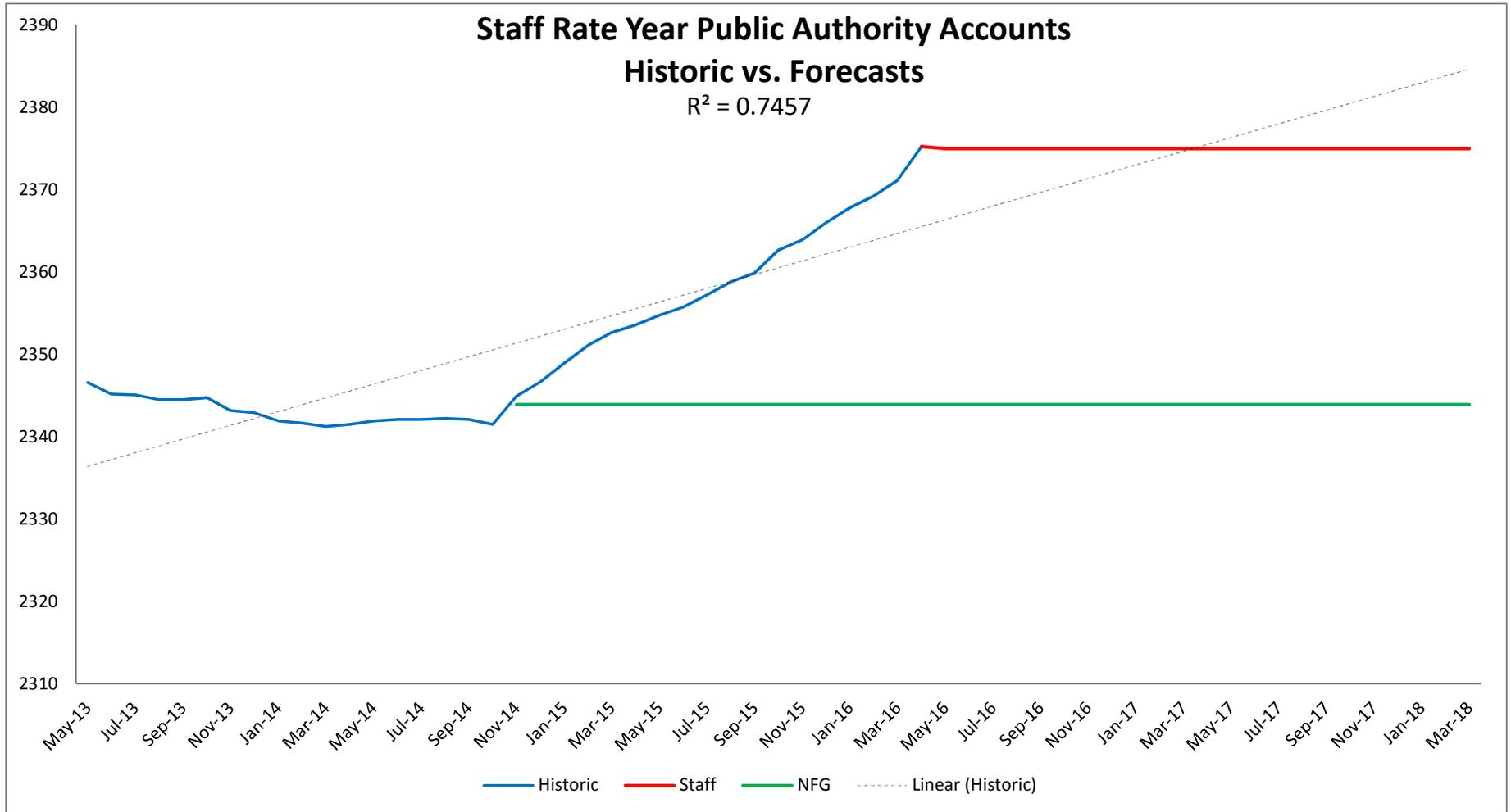
NATIONAL FUEL GAS DISTRIBUTION CORPORATION
NEW YORK DIVISION
COMPARISON OF CURRENT AND PROPOSED
SURVIVOR CURVES, NET SALVAGE PERCENT AND ANNUAL ACCRUAL RATE

DEPRECIABLE GROUP	CURRENT			PROPOSED		
	SURVIVOR CURVE	NET SALVAGE	ACCRUAL RATE	SURVIVOR CURVE	NET SALVAGE	ACCRUAL RATE
DEPRECIABLE PLANT						
303 MISCELLANEOUS INTANGIBLE PLANT	10-SQ	0	10.00	10-SQ	0	5.25
PRODUCTION PLANT						
325.4 RIGHTS OF WAY	55-H3.75	0	1.82	60-S4	0	1.67
327 COMPRESSOR STATION STRUCTURES	40-SQ	(5)	2.63	35-R5	(10)	3.15
328 MEASURING AND REGULATING STATION STRUCTURES	45-H3.25	(5)	2.33	50-R4	(5)	2.07
332 FIELD LINES	50-H2.75	(15)	2.30	58-R3	(10)	1.89
333 COMPRESSOR STATION EQUIPMENT	25-H2.25	(5)	4.20	25-S2.5	(5)	4.20
334 MEASURING AND REGULATING STATION EQUIPMENT	30-H1.50	(20)	4.00	32-R0.5	(15)	3.59
TRANSMISSION PLANT						
365.2 RIGHTS OF WAY	75-H3.50	0	1.33	80-R4	0	1.25
366 STRUCTURES AND IMPROVEMENTS	55-H2.00	(5)	1.91	60-R1.5	(15)	1.92
367.1 MAINS - EXCLUDING CATHODIC PROTECTION	60-H2.25	(25)	2.08	65-R2	(20)	1.85
367.2 MAINS - CATHODIC PROTECTION	24-H2.25	0	4.17	25-S0.5	0	3.99
369 MEASURING AND REGULATING STATION EQUIPMENT	35-H1.50	(15)	3.29	40-R1	(15)	2.88
DISTRIBUTION PLANT						
374.2 RIGHTS OF WAY	75-H3.50	0	1.33	80-R4	0	1.25
375 STRUCTURES AND IMPROVEMENTS	65-H2.50	(5)	1.75	70-R2.5	(15)	1.64
376.1 MAINS - CAST IRON	73-H2.25	(50)	2.12	73-S1	(55)	2.15
376.2 MAINS - STEEL AND OTHER						
1939 AND PRIOR	73-H2.25	(50)	2.12	73-S1	(55)	2.17
1940 AND SUBSEQUENT	53-H2.00	(50)	2.82	58-R1.5	(55)	2.67
TOTAL ACCOUNT 376.2						
376.3 MAINS - CATHODIC PROTECTION	24-H2.25	0	4.17	25-S0.5	0	4.00
376.4 MAINS - PLASTIC	55-H3.00	(50)	2.21	60-R3	(55)	2.59
377 COMPRESSOR STATION EQUIPMENT	30-H2.50	0	3.33	35-S2.5	0	2.86
378 MEASURING AND REGULATING STATION EQUIPMENT	35-H1.00	(25)	3.57	45-O1	(20)	2.66
380 SERVICES	52-H1.25	(30)	2.36	55-R0.5	(35)	2.46
381 METERS	36-H3.00	0	2.78	36-S1.5	0	2.78
382 METER INSTALLATIONS	52-H1.25	0	2.78	55-R0.5	0	1.82
384 HOUSE REGULATOR INSTALLATIONS	52-H1.25	0	3.33	55-R0.5	0	1.82
385 INDUSTRIAL MEASURING AND REGULATING STATION EQUIPMENT	45-H1.50	(25)	2.78	55-R1.5	(20)	2.18
387 OTHER EQUIPMENT	35-H3.50	0	2.86	38-R4	0	2.63
GENERAL PLANT						
389.2 RIGHTS OF WAY	75-SQ	0	1.33	60-R4	0	1.67
390.1 STRUCTURES AND IMPROVEMENTS - LARGE STRUCTURES	55-H1.50	0	1.82	65-R0.5	(10)	3.51
390.2 STRUCTURES AND IMPROVEMENTS - SMALL STRUCTURES	20-H1.75	(5)	5.25	30-L0.5	(10)	3.66
390.3 STRUCTURES AND IMPROVEMENTS - CACs				55-R2	(10)	2.55
391.1 OFFICE FURNITURE AND EQUIPMENT - FURNITURE	25-SQ	0	4.00	25-SQ	0	4.00
391.2 OFFICE FURNITURE AND EQUIPMENT - EQUIPMENT	15-SQ	0	6.67	15-SQ	0	6.67
391.3 OFFICE FURNITURE AND EQUIPMENT - COMPUTERS	5-SQ	0	20.00	5-SQ	0	20.00
392.1 TRANSPORTATION EQUIPMENT - OTHER	**	**	7.14	5-SQ	10	18.00
392.2 TRANSPORTATION EQUIPMENT - UNDER 1 TON	**	**	7.14	5-SQ	10	13.72
392.3 TRANSPORTATION EQUIPMENT - OVER 1 TON	**	**	7.14	7-SQ	10	10.71
394.1 TOOLS AND WORK EQUIPMENT	25-SQ	0	4.00	25-SQ	0	4.00
394.2 SHOP EQUIPMENT	25-SQ	0	4.00	25-SQ	0	4.00
394.3 GARAGE EQUIPMENT	25-SQ	0	4.00	25-SQ	0	4.00
396 POWER OPERATED EQUIPMENT	15-SQ	0	4.50	10-SQ	20	7.07
397 COMMUNICATION EQUIPMENT	10-SQ	0	10.00	10-SQ	0	10.00

* LIFE SPAN PROCEDURE WAS USED. CURVE SHOWN IS INTERIM SURVIVOR CURVE

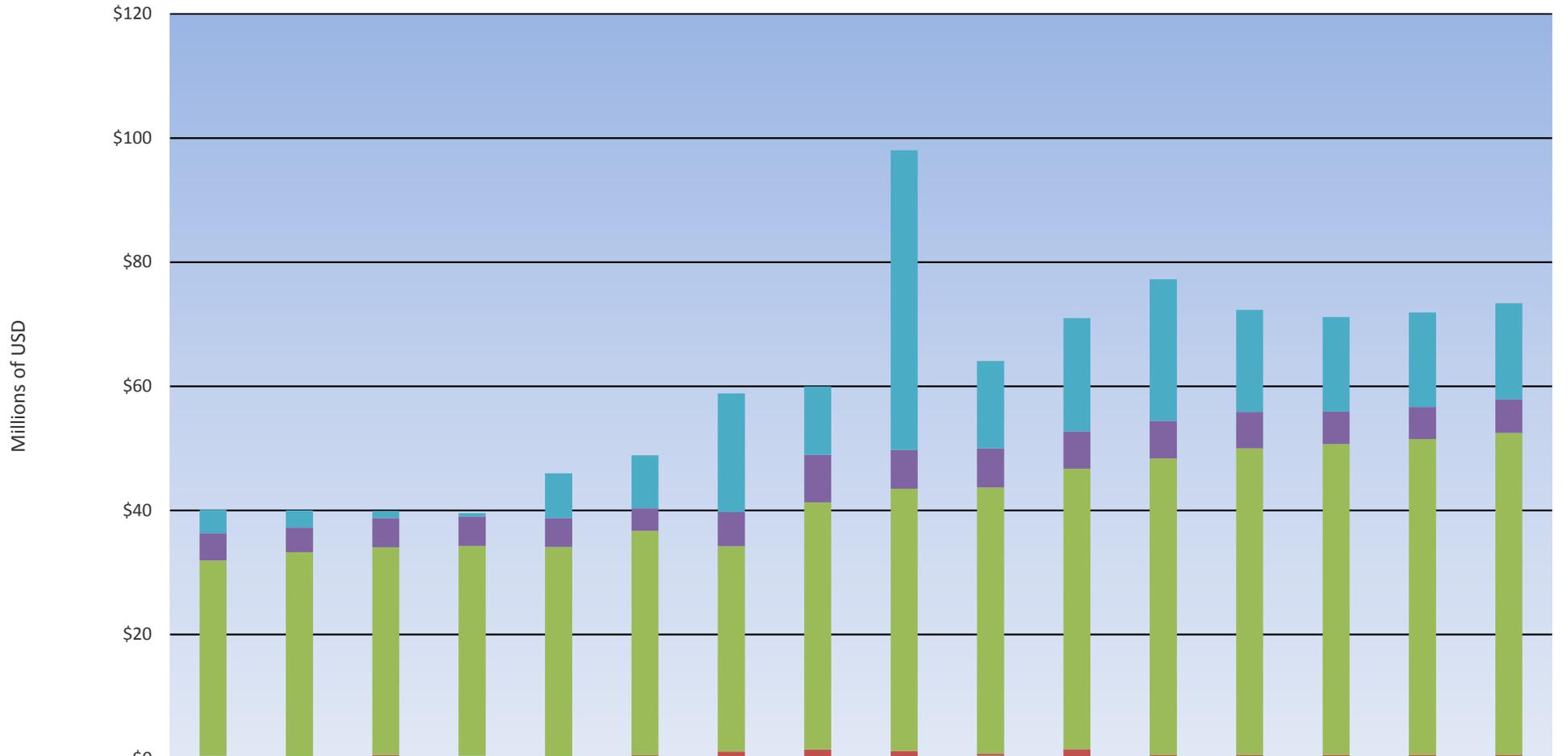






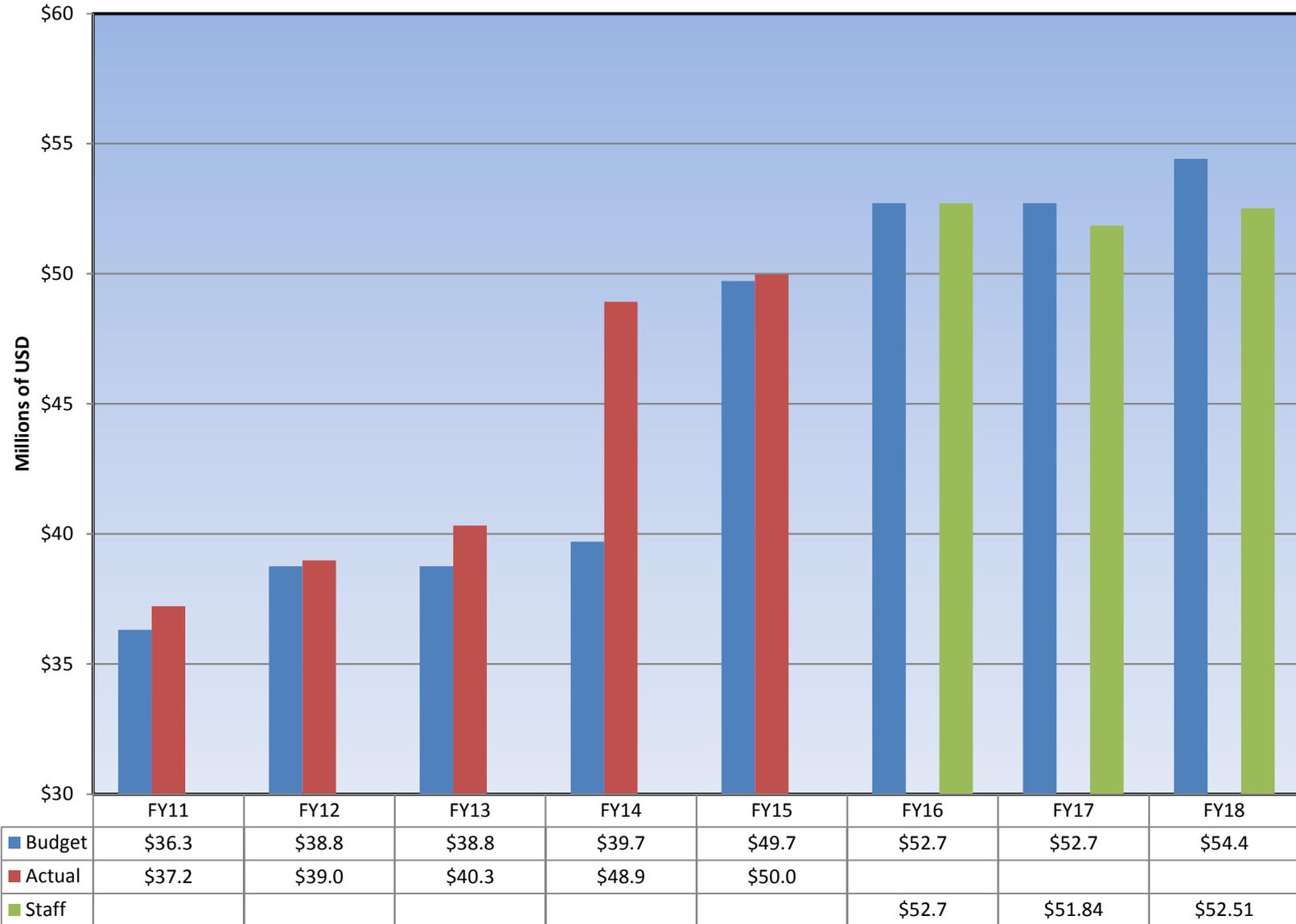
000's	NFG RY 1 TME March 2018					STAFF RY 1 (w/ 1000 Res. Customer Growth) TME March 2018					Difference Between Staff and NFG Forecasts				
	McF Volumes	(a) = (b)+(c)+(d)	(b)	(c)	(d)	McF Volumes	(a) = (b)+(c)+(d)	(b)	(c)	(d)	McF Volumes	Total \$	\$	\$	\$
		Total \$ Revenues	\$ Gas Cost	\$ Revenue Taxes	\$ Margin		Total \$ Revenues	\$ Gas Cost	\$ Revenue Taxes	\$ Margin		Revenues	Gas Cost	Revenue Taxes	Margin
SC 1 Residential	33,249	\$315,036	\$170,953	\$6,130	\$137,953	33,984	\$321,582	\$174,820	\$6,251	\$140,511	735	\$6,546	\$3,867	\$121	\$2,558
SC 2 HRAS	5,509	46,390	28,329	845	17,216	5,509	46,390	28,329	845	17,216	0	0	0	0	0
SC 2 LICAAP	1,419	\$10,353	\$7,295	\$171	\$2,887	1,419	\$10,353	\$7,295	\$171	\$2,887	0	\$0	\$0	\$0	\$0
SC 2 EBD LIRA	16	111	84	2	25	16	111	84	2	25	0	0	0	0	0
SC 3 General	4,359	\$37,041	\$22,850	\$346	\$13,844	5,558	\$46,091	\$29,154	\$431	\$16,506	1,199	\$9,050	\$6,303	\$85	\$2,662
Streetlighting	2	17	9	0	8	2	17	9	0	8	0	0	0	0	0
Total Sales Service	44,554	\$408,948	\$229,521	\$7,494	\$171,933	46,489	\$424,544	\$239,691	\$7,700	\$177,153	1,935	\$15,597	\$10,170	\$206	\$5,220
SC-1 Aggregated Transportation DSS	725	\$2,520	\$363	\$74	\$2,083	725	\$2,520	\$363	\$74	\$2,083	0	\$0	\$0	\$0	\$0
SC 1 Aggregated Transportation	9,316	37,683	4,662	1,106	31,915	9,405	37,900	4,707	1,112	32,081	90	217	45	6	166
SC 2 HRAS Transportation	1,754	\$5,960	\$878	\$175	\$4,907	1,754	\$5,960	\$878	\$175	\$4,907	0	\$0	\$0	\$0	\$0
SC 3 Transportation	10,435	30,622	6,424	286	23,912	10,229	30,123	6,297	281	23,545	-206	-499	-127	-5	-368
SC 13 TC1.1	7,400	\$15,370	\$3,213	\$144	\$12,014	7,400	\$15,370	\$3,213	\$144	\$12,014	0	\$0	\$0	\$0	\$0
SC 13 TC 2	3,877	6,333	1,809	59	4,464	3,877	6,333	1,809	59	4,464	0	0	0	0	0
SC 13 TC 3	5,978	\$6,593	\$1,803	\$62	\$4,728	5,978	\$6,593	\$1,803	\$62	\$4,728	0	\$0	\$0	\$0	\$0
SC 13 TC 4	12,301	6,777	2,325	63	4,389	12,301	6,777	2,325	63	4,389	0	0	0	0	0
SC 13 TC 4.1	2,778	\$2,836	\$1,223	\$27	\$1,587	2,778	\$2,836	\$1,223	\$27	\$1,587	0	\$0	\$0	\$0	\$0
SC 16 Bypass Response	960	184	0	2	182	960	184	0	2	182	0	0	0	0	0
Streetlighting Transportation	5	\$26	\$2	\$0	\$24	5	\$26	\$2	\$0	\$24	0	\$0	\$0	\$0	\$0
Total Transportation Service	55,528	\$114,904	\$22,702	\$1,997	\$90,205	55,411	\$114,622	\$22,620	\$1,999	\$90,003	-117	-\$282	-\$82	\$2	-\$201
Total	100,082	\$523,852	\$252,223	\$9,491	\$262,138	101,900	\$539,166	\$262,311	\$9,699	\$267,157	1,818	\$15,315	\$10,088	\$208	\$5,019

Total Historic and Forecasted Capital Expenditures

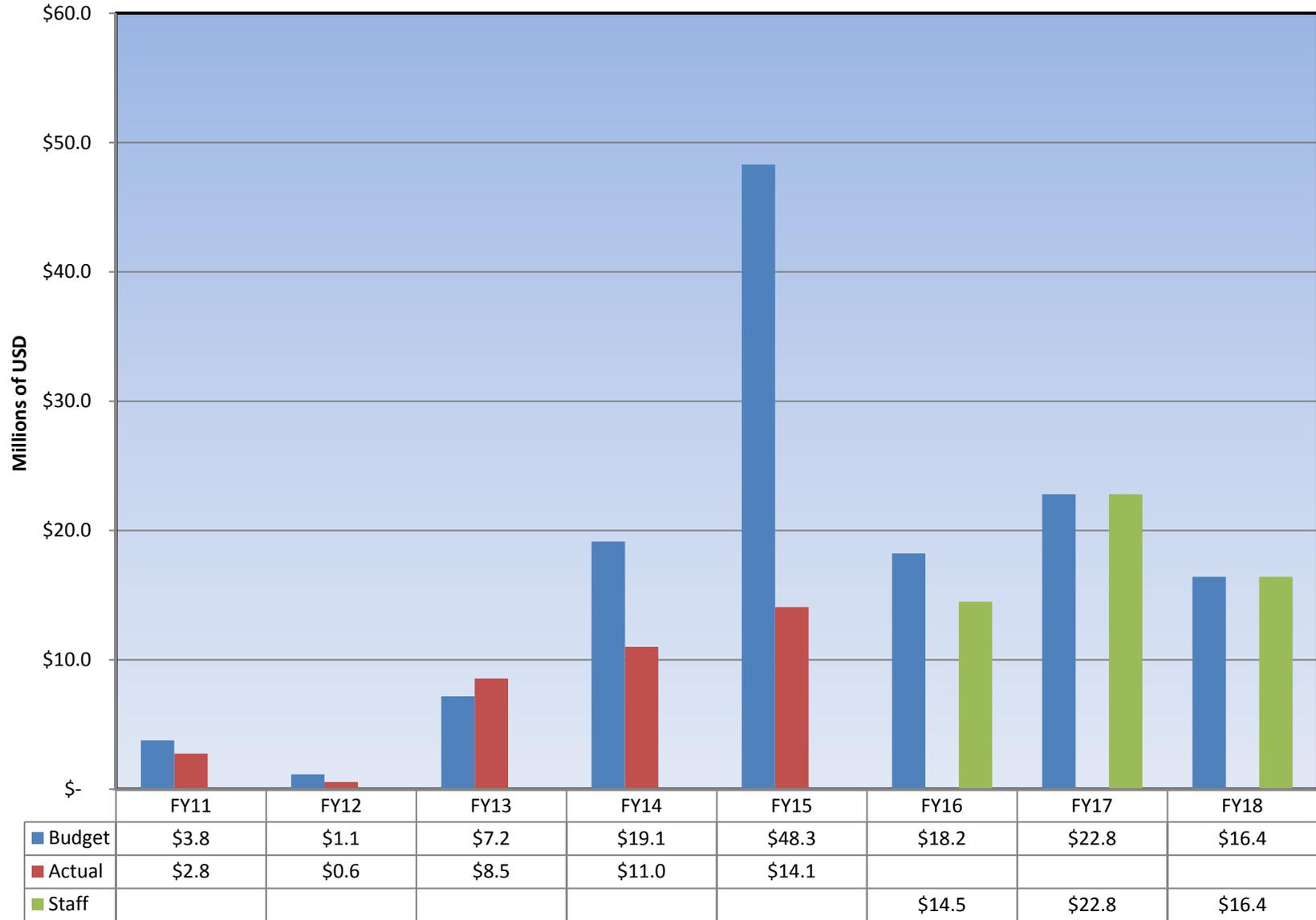


	Budget 2011	Actual 2011	Budget 2012	Actual 2012	Budget 2013	Actual 2013	Budget 2014	Actual 2014	Budget 2015	Actual 2015	Forecast 2016	Forecast 2017	Forecast 2018	Forecast 2019	Forecast 2020	Forecast 2021
Total	\$40.08	\$39.97	\$39.90	\$39.54	\$45.93	\$48.86	\$58.84	\$59.93	\$98.01	\$64.06	\$70.94	\$77.21	\$72.27	\$71.11	\$71.89	\$73.37
Special Projects	\$3.77	\$2.75	\$1.15	\$0.56	\$7.18	\$8.55	\$19.15	\$11.00	\$48.30	\$14.08	\$18.23	\$22.80	\$16.42	\$15.21	\$15.26	\$15.50
General Plant	\$4.39	\$3.98	\$4.75	\$4.76	\$4.69	\$3.66	\$5.50	\$7.65	\$6.27	\$6.30	\$6.01	\$6.05	\$5.89	\$5.23	\$5.18	\$5.41
Distribution Plant	\$31.50	\$32.94	\$33.50	\$33.83	\$33.76	\$36.18	\$33.08	\$39.86	\$42.28	\$42.94	\$45.23	\$47.79	\$49.39	\$50.11	\$50.88	\$51.91
Transmission Plant	\$0.16	\$0.10	\$0.25	\$0.18	\$0.11	\$0.32	\$0.92	\$1.42	\$0.86	\$0.30	\$1.21	\$0.31	\$0.31	\$0.31	\$0.31	\$0.31
Production Plant	\$0.26	\$0.20	\$0.25	\$0.20	\$0.20	\$0.16	\$0.20	\$0.00	\$0.32	\$0.44	\$0.27	\$0.27	\$0.27	\$0.27	\$0.27	\$0.26

Total Historic and Forecasted Capital Expenditures without Special Projects



Total Historic and Forecasted Special Project Capital Expenditures

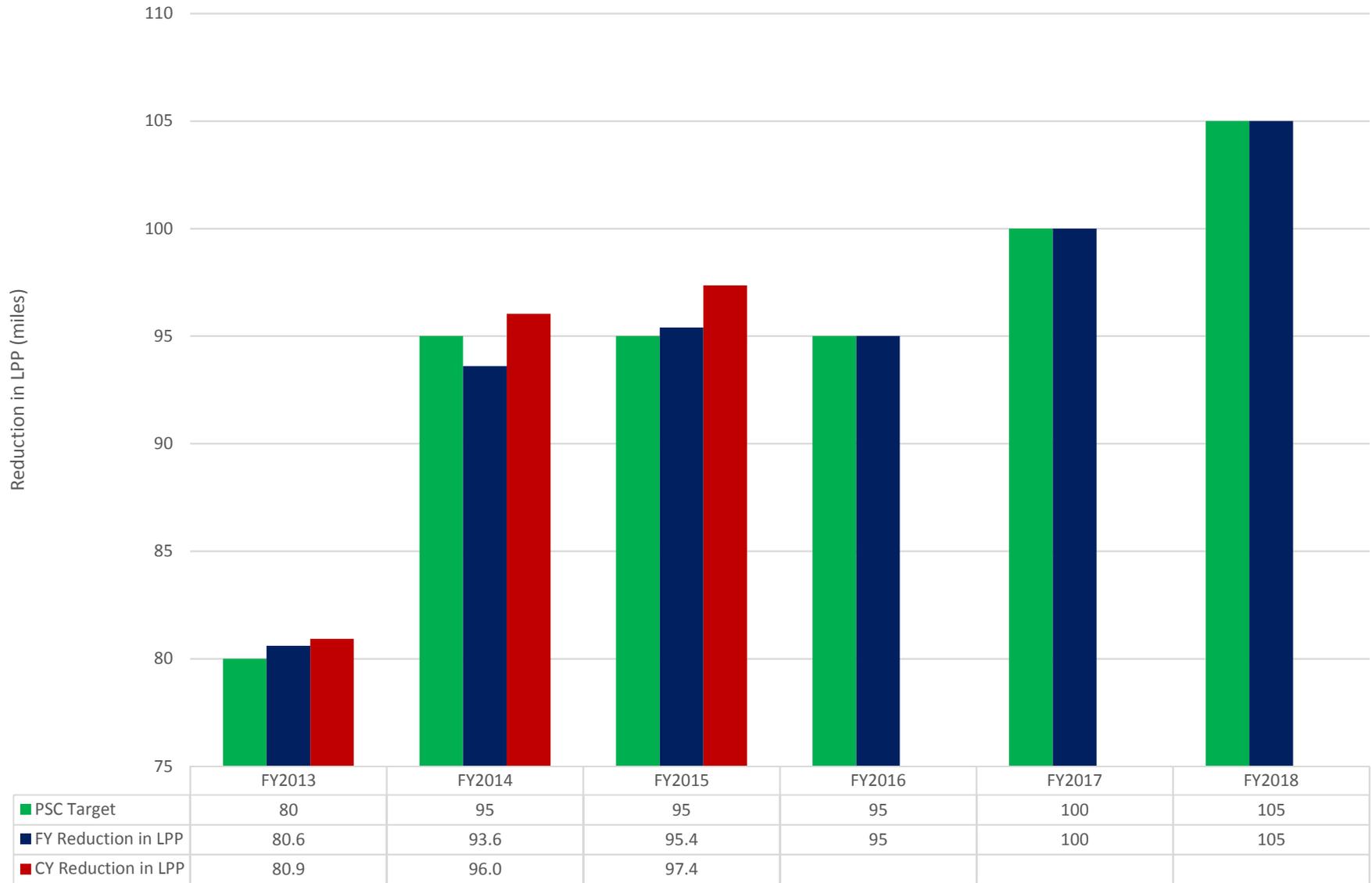


Company Actual, Budget , Forecast Capital Investment Graphs and Table

NFG Historic and Forecasted Capital Expenditures (Millions of \$)										
	FY 11	FY 12	FY 13	FY 14	FY 15	FY 11 to FY 15 Average	FY 13 to FY 15 Average	Rate Year	Difference between Average and RY	Percent change
Production Plant	\$0.20	\$0.20	\$0.16	\$0.00	\$0.44	\$0.20	\$0.20	\$0.27	\$0.06	131%
Transmission Plant	\$0.10	\$0.18	\$0.32	\$1.42	\$0.30	\$0.46	\$0.68	\$0.31	-\$0.16	66%
Distribution Plant	\$32.94	\$33.83	\$36.18	\$39.86	\$42.94	\$37.15	\$39.66	\$48.48	\$11.33	130%
General Plant	\$3.98	\$4.76	\$3.66	\$7.65	\$6.30	\$5.27	\$5.87	\$5.98	\$0.71	114%
Special Projects	\$2.75	\$0.56	\$8.55	\$11.00	\$14.08	\$7.39	\$11.21	\$12.25	\$4.86	166%
Total Budget	\$39.97	\$39.54	\$48.86	\$59.93	\$64.06	\$50.47	\$57.62	\$67.28	\$16.81	133%

Calculated using FY 17 and FY 18 monthly CapEx in IR DPS-93A and historic CapEx in UFR 83

Historic and Forecasted LPP Reductions



Fiscal Years (FY) , Twelve Months Ended September 31st and Calendar Years (CY)
 PSC Targets are set for a Calendar Year

Leak Prone Pipe Reduction Cost per Mile							
	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	Rate Year*
Company	\$362,152	\$340,328	\$359,732	\$387,256	\$403,753	\$420,953	\$411,321
Adjustment	\$0	\$0	\$0	\$0	-\$8,752	-\$18,052	-\$12,844
Staff	\$362,152	\$340,328	\$359,732	\$387,256	\$395,001	\$402,901	\$398,477

*The Rate Year is the twelve months ended March 31 2018 and the Company's Fiscal Year (FY) is twelve months ended September 31st. The Rate Year consists of the second half of FY 2017 and the first half of FY 2018. The Rate Year \$/mile is calculated by multiplying the FY \$/mile by the sum of the monthly allocations from the Company's net plant model. The sum of the monthly allocations for the first half of FY 2018 is 44%
The sum of the monthly allocations for the second half of FY 2017 is 56%

Company Percent Change per Fiscal Year in Leak Prone Pipe Reduction Cost per Mile						
	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
Company \$/mile	\$362,152	\$340,328	\$359,732	\$387,256	\$403,753	\$420,953
Percent Change		-6.03%	5.70%	7.65%	4.26%	4.26%
Company Normalized \$/mile	\$326,670	\$340,328	\$359,732	\$387,256	\$403,753	\$420,953
Percent Change		4.18%	5.70%	7.65%	4.26%	4.26%

Normalized Company \$/mile is a reduction in FY 2013 \$/mile due to a decrease in a PSC service replacement target that was implemented in 2014.

STAFF ADJUSTMENTS TO NET PLANT
FOR THE TWELVE MONTHS ENDING MARCH 31, 2018
(\$000)

	A	B	C	D	E
<u>Gross Plant</u>					
1 Plant in Service at December 31, 2015					\$1,359,061
2 Estimated Expenditures					115,657
3 Estimated Retirements					17,093
4 Net Estimated Plant in Service at March 31, 2017					1,457,625
5 <u>Estimated Monthly Balances During Rate Year</u>					
	Estimated	Estimated	Monthly		
<u>Month</u>	<u>Expenditures</u>	<u>Retirements</u>	<u>Plant</u>		
			<u>In Service</u>		
6 Balance @ March 31, 2017			\$1,457,625		
7 April 2017	\$4,906	(\$843)	1,461,688		
8 May 2017	\$5,294	(\$1,609)	1,465,373		
9 June 2017	\$6,131	(\$1,095)	1,470,409		
10 July 2017	\$5,984	(\$866)	1,475,526		
11 August 2017	\$6,626	(\$1,383)	1,480,770		
12 September 2017	\$8,534	(\$6,091)	1,483,212		
13 October 2017	\$4,621	(\$1,138)	1,486,695		
14 November 2017	\$4,883	(\$1,478)	1,490,100		
15 December 2017	\$4,883	(\$766)	1,494,216		
16 January 2018	\$5,738	(\$883)	1,499,071		
17 February 2018	\$5,000	(\$439)	1,503,632		
18 March 2018	\$5,228	(\$633)	1,508,228		
19 Total (sum of lines 6-18)	<u>\$67,826</u>	<u>(\$17,224)</u>	19,276,546		
20 Less: 1/2 March 31, 2017 (0.5*C6)			728,813		
21 Less: 1/2 March 31, 2018 (0.5*C18)			754,114		
22 Thirteen Month Total (C19-C20-C21)			<u>\$17,793,619</u>		
			<u>Company</u>	<u>Adjustments</u>	<u>Staff</u>
23 Estimated Average Plant in Service at March 31, 2018 (C22÷12)			\$1,487,267	(\$4,465)	<u>\$1,482,802</u>
24 Construction Completed Not yet Classified at December 31, 2015			\$3,534	\$0	<u>3,534</u>
25 Total Average Net Plant at March 31, 2018 (E23+E24)			\$1,490,801	(\$4,465)	<u>\$1,486,336</u>

STAFF ADJUSTMENTS TO DEPRECIATION EXPENSE
FOR THE TWELVE MONTHS ENDING MARCH 31, 2018
(\$000)

	A	B	C	D	E
<u>Reserve for Depreciation</u>					
1 Actual Reserve at December 31, 2015					539,851
2 Estimated Change					28,038
3 Net Estimated Reserve in Service at March 31, 2017					567,889

Estimated Monthly Balances During Rate Year

<u>Month</u>	<u>Estimated Accruals</u>	<u>Estimated Retirements</u>	<u>Estimated Salvage</u>	<u>Monthly Reserve</u>
4 Balance @ March 31, 2017				\$573,075
5 April 2017	\$3,358	\$843	\$2	575,592
6 May 2017	\$3,372	1,609	\$4	577,359
7 June 2017	\$3,381	1,095	\$3	579,648
8 July 2017	\$3,399	866	\$2	582,183
9 August 2017	\$3,410	1,383	\$4	584,214
10 September 2017	\$3,422	6,091	\$10	581,555
11 October 2017	\$3,426	1,138	\$3	583,846
12 November 2017	\$3,437	1,478	\$3	585,808
13 December 2017	\$3,445	766	\$2	588,489
14 January 2018	\$3,478	883	\$2	591,086
15 February 2018	\$3,484	439	\$1	594,132
16 March 2018	\$3,489	633	\$1	596,989
17 Total (sum of lines 4-16)	<u>\$41,101</u>	<u>\$17,224</u>	<u>\$37</u>	7,593,972
18 Less: 1/2 March 31, 2017 (0.5*D4)				286,537
19 Less: 1/2 March 31, 2018 (0.5*D16)				298,494
20 Thirteen Month Total (D17-D18-D19)				7,008,941

	<u>Company</u>	<u>Adjustments</u>	<u>Staff</u>
21 Estimated Average Reserve at March 31, 2018 (D20÷12)	\$581,363	\$2,715	\$584,078
22 Estimated Depreciation Expense for TME March 31, 2018 (A102)	\$46,319	(\$5,218)	\$41,101
23 Estimated Average Plant in Service at March 31, 2018 (Sheet 1, E25)	\$1,490,801	(\$4,465)	\$1,486,336
24 Estimated Average Reserve at March 31, 2018 (E21)	\$581,363	\$2,715	\$584,078
25 Average Net Plant at March 31, 2018 (E23-E24)	\$909,438	(\$7,180)	\$902,258
26 Noninterest Bearing Construction Work in Progress at December 31, 2018	\$211	\$0	211
27 Total Average Net Plant at March 31, 2018 (E25+E26)	\$909,649	(\$7,180)	\$902,469

Account Number	Description	Current as of 12/31/15				NFG Proposed					STAFF Proposed							
		BALANCE	ASL Yr	Curve	Book Res \$	Estimated BALANCE for March 31, 2018	ASL Yr	Curve	ACCRUAL RATE %	ACCRUAL \$	Theo Res \$	Estimated BALANCE for March 31, 2018	ASL Yr	Curve	NS %	ACCRUAL RATE %	ACCRUAL \$	Theo Res \$
Depreciable Plant																		
303.00	Miscellaneous Intangible Plant	11,619,429	10	SQ	10,289,353	11,619,429	10	SQ	5.20	603,692	8,720,250	11,619,429	10	SQ	0	5.20	604,210	8,720,250
303.10	Miscellaneous Intangible Plant - Enterprise Software	--	--	--	--	47,180,000	10	SQ	10.00	4,718,000	7,491,300	43,550,769	10	SQ	0	10.00	4,355,077	7,491,300
Total Depreciable Plant		11,619,429	10		10,289,353	58,799,429	10		9.05	5,321,692	16,211,550	55,170,198	10			8.99	4,959,287	16,211,550
Production Plant																		
325.40	Rights of Way	334,326	55	H3.75	260,492	334,326	60	S4	1.67	5,583	217,209	334,326	60	S4	0	1.67	5,572	217,209
327.00	Compressor Station Structures	289,143	40	SQ	23,782	289,143	35	R5	3.15	9,096	61,340	289,143	35	R5	-10	3.15	9,108	61,340
328.00	Measuring and Regulating Station Structures	14,037	45	H3.25	15,925	14,037	50	R4	2.07	291	11,123	14,037	50	R4	-5	2.07	291	11,123
332.00	Field Lines	8,699,180	50	H2.75	10,125,886	8,711,337	58	R3	1.89	164,819	5,630,033	8,711,337	58	R3	-10	1.89	164,644	5,630,033
333.00	Compressor Station Equipment	1,126,792	25	H2.25	257,918	1,126,792	25	S2.5	4.20	47,325	472,038	1,126,792	25	S2.5	-5	4.20	47,325	472,038
334.00	Measuring and Regulating Station Equipment	4,823,053	30	H1.50	1,967,565	4,935,512	32	R0.5	3.59	177,086	1,947,768	4,935,512	32	R0.5	-15	3.59	177,370	1,947,768
Total Production Plant		15,286,532	41		12,651,568	15,411,147	43		2.62	404,200	8,339,511	15,411,147	43			2.62	404,310	8,339,511
Transmission Plant																		
365.20	Rights of Way	250,782	75	H3.50	152,677	250,782	80	R4	1.25	3,132	138,216	250,782	80	R4	0	1.25	3,135	138,216
366.20	Structures and Improvements	268,657	55	H2.00	193,571	268,657	60	R1.5	1.92	5,160	129,395	268,657	60	R1.5	-15	1.92	5,149	129,395
367.10	Mains - Excluding Cathodic Protection	11,894,813	60	H2.25	5,497,739	18,244,181	65	R2	1.85	337,152	4,636,593	18,244,181	70	R2	-20	1.71	311,975	4,636,593
367.20	Mains - Cathodic Protection	2,437,822	24	H2.25	1,089,401	4,154,597	25	S0.5	4.00	166,121	1,073,066	4,154,597	25	S0.5	0	4.00	166,184	1,073,066
369.00	Measuring and Regulating Station Equipment	2,112,831	35	H1.50	935,944	2,323,257	40	R1.5	2.87	66,794	919,287	2,323,257	40	R1.5	-15	2.87	66,677	919,287
Total Transmission Plant		16,964,906	50		7,869,332	25,241,475	54		2.29	578,359	6,896,557	25,241,475	55			2.19	553,120	6,896,557
Distribution Plant																		
374.20	Rights of Way	12,495,125	75	H3.50	3,141,770	13,259,366	80	R4	1.25	165,742	3,075,423	13,259,366	80	R4	0	1.25	165,742	3,075,423
375.00	Structures and Improvements	1,438,214	65	H2.50	684,542	1,494,640	70	R2.5	1.64	24,579	777,517	1,494,640	75	R2.5	-15	1.53	22,868	777,517
Mains																		
376.10	Cast Iron	961,585	73	H2.25	1,144,997	667,376	73	S1	2.16	14,393	883,432	667,376	73	S1	-55	2.16	14,415	883,432
376.20	Steel and other 1939 and before	4,067,757	73	H2.25	4,826,079	3,818,651	73	S1	2.17	82,917	5,062,899	3,818,651	73	S1	-55	2.17	82,865	5,062,899
376.20	Steel and other 1940 and after	162,578,713	53	H2.00	101,620,924	161,340,335	58	R1.5	2.67	4,301,333	115,740,699	161,340,335	58	R1.5	-55	2.67	4,311,681	115,740,699
376.30	Cathodic Protection	2,114,764	24	H2.25	914,251	2,305,422	25	S0.5	4.00	92,217	1,022,832	2,305,422	25	S0.5	0	4.00	92,217	1,022,832
376.40	Plastic	560,328,887	70	H3.00	224,233,121	614,762,064	60	R3	2.59	15,913,116	268,012,431	614,762,064	80	R3	-55	1.94	11,926,384	268,012,431
Total 376.00		730,051,705			332,739,372	782,893,849				20,403,976	390,722,293	782,893,849					16,427,562	390,722,293
377.00	Compressor Station Equipment	1,375,412	30	H2.50	1,055,007	1,375,412	35	S2.5	2.86	39,337	911,065	1,375,412	35	S2.5	0	2.86	39,297	911,065
378.00	Measuring and Regulating Station Equipment	14,989,457	35	H1.00	7,514,358	15,629,681	45	O1	2.66	415,935	4,747,742	15,629,681	45	O1	-20	2.66	415,750	4,747,742
380.00	Services	433,915,870	52	H1.25	127,240,926	466,851,960	55	R0.5	2.46	11,465,639	125,698,539	466,851,960	55	R0.5	-35	2.46	11,484,558	125,698,539
381.00	Meters	20,133,453	36	H3.00	5,422,150	23,234,481	36	S1.5	2.78	645,919	6,717,516	23,234,481	36	S1.5	0	2.78	645,402	6,717,516
382.00	Meter Installations	6,252,880	52	H1.25	2,100,146	6,252,880	55	R0.5	1.82	113,802	1,776,959	6,252,880	55	R0.5	0	1.82	113,689	1,776,959
384.00	House Regulator Installations	2,415,011	52	H1.25	981,159	2,415,011	55	R0.5	1.82	43,953	623,054	2,415,011	55	R0.5	0	1.82	43,909	623,054
385.00	Industrial Measuring and Regulating Station Equipment	20,560,990	45	H1.50	8,364,025	21,686,501	55	R1.5	2.18	473,633	7,133,885	21,686,501	55	R1.5	-20	2.18	473,160	7,133,885
387.00	Other Equipment	12,062	35	H3.50	(347)	12,062	38	R4	2.63	317	11,226	12,062	38	R4	0	2.63	317	11,226
Total Distribution Plant		1,243,640,181	51		489,243,108	1,335,105,843	54		2.53	33,792,832	542,195,219	1,335,105,843	56			2.23	29,832,254	541,417,702
General Plant																		
389.20	Rights of Way	284	75	SQ	263	284	60	R4	1.67	5	163	284	60	R4	0	1.67	5	163
390.10	Structures and Improvements - Large Structures	22,171,269	55	H1.50	2,293,881	23,634,958	65	R0.5	4.17	985,031	13,545,131	23,634,958	65	R0.5	-10	4.17	985,578	13,545,131
390.20	Structures and Improvements - Small Structures	2,093,731	20	H1.75	191,955	2,195,115	30	L0.5	3.66	80,407	932,660	2,195,115	30	L0.5	-10	3.66	80,341	932,660
390.30	Structures and Improvements - CACs Structures	574,954			369,746	593,402	55	R2	2.82	16,756	446,187	593,402	55	R2	-10	2.82	16,734	446,187
391.10	Office Furniture and Equipment - Furniture	918,420	25	SQ	541,720	547,420	25	SQ	4.00	21,897	303,783	547,420	25	SQ	0	4.00	21,897	303,783
391.20	Office Furniture and Equipment - Equipment	869,790	15	SQ	250,592	985,134	15	SQ	6.67	65,708	472,728	985,134	15	SQ	0	6.67	65,708	472,728
391.30	Office Furniture and Equipment - Computers	7,536,277	5	SQ	2,187,074	7,483,102	5	SQ	20.00	1,496,620	4,012,619	7,483,102	5	SQ	0	20.00	1,496,620	4,012,619
392.10	Transportation Equipment - Other	139,212			78,250	139,212	5	SQ	7.76	10,800	109,041	139,212	5	SQ	10	7.76	10,803	109,041
392.20	Transportation Equipment - Under 1 Ton	9,256,581			5,092,990	12,072,780	5	SQ	13.59	1,640,541	6,454,479	12,072,780	5	SQ	10	13.59	1,640,691	6,454,479
392.30	Transportation Equipment - Over 1 Ton	3,933,918			2,304,756	3,933,918	7	SQ	7.86	309,235	3,053,152	3,933,918	7	SQ	10	7.86	309,206	3,053,152
394.10	Tools and Work Equipment	5,282,005	25	SQ	1,319,317	5,038,192	25	SQ	4.00	201,528	2,092,721	5,038,192	25	SQ	0	4.00	201,528	2,092,721
394.20	Shop Equipment	447,660	25	SQ	169,736	418,810	25	SQ	4.00	16,752	262,530	418,810	25	SQ	0	4.00	16,752	262,530
394.30	Garage Equipment	6,275,773	25	SQ	1,597,105	6,130,793	25	SQ	4.00	245,232	2,814,473	6,130,793	25	SQ	0	4.00	245,232	2,814,473
396.00	Power Operated Equipment	7,623,137	15	SQ	2,630,946	10,402,705	10	SQ	7.49	778,771	2,700,439	10,402,705	10	SQ	20	7.49	779,163	2,700,439
397.00	Communication Equipment	2,625,855	10	SQ	482,133	3,527,366	10	SQ	10.00	352,737	1,344,753	3,527,366	10	SQ	0	10.00	352,737	1,344,753
Total General Plant		69,748,864	27		19,510,464	77,103,191	24		8.07	6,222,020	38,544,859	77,103,191	24			8.07	6,222,995	38,544,859
Excluded Intangible Plant and Nondepreciable Plant from Calculations		1,801,279			286,855	1,801,279					286,855	1,801,279						286,855
Total Depreciable Gas Plant		1,359,061,192	36		539,850,680	1,513,462,366	37		3.06	46,319,103	612,474,551	1,509,833,135	38			2.78	41,971,966	611,697,034

NATIONAL FUEL GAS DISTRIBUTION CORPORATION
 Staff Gas Revenue Allocation - Twelve Months Ending March 31, 2018

Allocation Switch	1
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Base Rev Increase	\$ 2,524,390	
Late Payment adj	\$ (22,189)	0.87897%
Adj Revenue Increase	\$ 2,546,579	(a)

% On Base Rates 0.96%

	Base Non Gas Cost			Base Revenue Increase	Adjustments							Adjusted Base Revenue Increase	Revenue % increase	Incremental Rate Increase/ (Decrease)	Overall Delivery Revenues
	Revenues	Allocation %			RDM Reset	Sym Sharing Reset	MFC Target Reset	Low Income Program Adjustment	Billing Charge Change	Supply + Records & Collections Changes	Uncollectible Charge Changes				
	(b)	(c)	(d)=(a)*(c)		(e ₁)	(e ₂)	(e ₃)	(e ₄)	(e ₅)	(e ₆)	(e ₇)				
Residential	199,304,911	74.8%	\$ 1,903,990	(2,823,789)	(1,155,912)	\$1,046,147	\$4,696,914	\$169,897	(\$2,756,871)	\$1,889,987	2,970,365	1.49%	2,970,365	202,275,276	
SC 1 Sales	140,082,179														
SC 1 Trans	32,080,929														
HRAS	17,215,915														
HRAS Trans	4,907,447														
LICAAP	2,887,297														
EBD	24,717														
DSS	2,106,428														
Small Non Res	40,083,476	15.0%	\$ 382,923	(1,610,130)	(329,084)	\$944,172		\$10,409	(\$556,316)	(\$10,030)	(1,168,055)	-2.91%	(1,168,055)	38,915,421	
SC 3	16,506,429														
SC 3 Trans	23,544,969														
Streetlight	8,133														
Streetlight Trans	23,945														
TC 1.1	12,013,612	4.5%	\$ 114,768		(164,521)			136			(49,617)	-0.41%	(49,617)	11,963,994	
TC 2.0	4,464,441	1.7%	\$ 42,649		(86,199)			34			(43,516)	-0.97%	(43,516)	4,420,925	
TC 3.0	4,727,898	1.8%	\$ 45,166		(132,909)			18			(87,725)	-1.86%	(87,725)	4,640,174	
TC 4.0	4,388,665	1.6%	\$ 41,926		(273,497)			9			(231,563)	-5.28%	(231,563)	4,157,102	
TC 4.1	1,586,504	0.6%	\$ 15,156		(61,762)			4			(46,602)	-2.94%	(46,602)	1,539,902	
SC-16 Bypass	182,050														
	\$ 266,569,507	100%	\$ 2,546,579	\$ (4,433,919)	\$ (2,203,885)	\$1,990,318	\$4,696,914	\$180,507	(\$3,313,187)	\$1,879,957	1,343,285	0.50%	1,343,287	267,912,794	

National Fuel Gas Distribution Corporation
Staff Rate Design
Twelve Months Ending March 31, 2018

	Quantity	Present Rates	Revenues @ Proposed Rates	Incremental Revenue Targets	Current Rates	Proposed Rates	Delta
TC 1.1 Revenue Allocation Group							
TC 1.1 MMT							
Customers	8,505	\$2,742,437	\$2,742,437		TC 1.1 MMT		
Block 1	8,505	\$0	\$0		Minimum Charge	\$322.45	\$322.45
Block 2	7,135,691	\$10,269,544	\$10,220,900		0 - 1 Mcf	0	0
	7,144,196	\$13,011,981	\$12,963,337		Over 1 Mcf	1.43918	\$ 1.4324
			\$ (48,644)	\$ (48,644)			\$ (0.01) -0.47%
TC 1.1 DMT					TC 1.1 MMT		
Customers	164	\$52,882	\$52,882		Minimum Charge	\$322.45	\$322.45
Block 1	164	\$0	\$0		0 - 1 Mcf	0	0
Block 2	142,781	\$180,588	\$179,615		Over 1 Mcf	1.26479	\$ 1.2580
	142,945	\$233,470	\$232,496				\$ (0.01) -0.54%
			\$ (973)	\$ (973)	TC 1.1 MMT		
TC 1.1 MMT - N					Minimum Charge	\$322.45	\$322.45
Customers	108	\$34,825	\$34,825		0 - 1 Mcf	0	0
Block 1	108	\$0	\$0		Over 1 Mcf	1.30218	\$ 1.3022
Block 2	112,266	\$146,191	\$146,191				\$ - 0.00%
	112,374	\$181,015	\$181,015				
			\$ -	\$ -			
	Total		\$ (49,617)	\$ (49,617)	Increase / (Decrease)	Volumes	
						7,144,196	98.0% \$ (48,644)
						142,945	2.0% \$ (973)
						TC 1.1 MMT - N	0.0% \$ -
						Total TC 1.1	7,287,141 100% \$ (49,617)
TC 2 Revenue Allocation Group							
TC 2 MMT					TC 2 MMT		
Customers	1,252	\$896,282	\$896,282		Minimum Charge	\$715.88	\$715.88
Block 1	1,252	\$0	\$0		0 - 1 Mcf	0	0
Block 2	3,509,209	\$3,871,359	\$3,830,387		Over 1 Mcf	1.1032	\$ 1.0915
	3,510,461	\$4,767,641	\$4,726,669				\$ (0.01) -1.06%
			\$ (40,972)	\$ (40,972)	TC 2 DMT		
TC 2 DMT					Minimum Charge	\$715.88	\$715.88
Customers	60	\$42,953	\$42,953		0 - 1 Mcf	0	0
Block 1	60	\$0	\$0		Over 1 Mcf	0.92881	\$ 0.9171
Block 2	217,876	\$202,365	\$199,822				\$ (0.01) -1.26%
	217,936	\$245,318	\$242,775		TC 2 - N		
			\$ (2,544)	\$ (2,544)	Minimum Charge	\$715.88	\$715.88
TC 2 - N					0 - 1 Mcf	0	0
Customers	108	\$77,315	\$77,315		Over 1 Mcf	0.86918	\$ 0.8692
Block 1	108	\$0	\$0				\$ - 0.00%
Block 2	112,266	\$97,579	\$97,579				
	112,374	\$174,894	\$174,894				
			\$ -	\$ -			
	Total		\$ (43,516)	\$ (43,516)	Increase / (Decrease)	Volumes	
						3,510,461	94.2% \$ (40,972)
						217,936	5.8% \$ (2,544)
						TC 2 - N	0.0% \$ -
						Total TC 2	3,728,397 100% \$ (43,516)
TC 3 Revenue Allocation Group							
TC 3 MMT					TC 3 MMT		
Customers	444	\$767,867	\$767,867		Minimum Charge	\$1,729.43	\$1,729.43
Block 1	444	\$0	\$0		0 - 1 Mcf	0	0
Block 2	3,060,975	\$2,435,863	\$2,388,287		Over 1 Mcf	0.79578	\$ 0.7802
	3,061,419	\$3,203,730	\$3,156,154				\$ (0.02) -1.95%
			\$ (47,576)	\$ (47,576)	TC 3 DMT		
TC 3 DMT					Minimum Charge	\$1,729.43	\$1,729.43
Customers	168	\$290,544	\$290,544		0 - 1 Mcf	0	0
Block 1	168	\$0	\$0		Over 1 Mcf	0.62139	\$ 0.6058
Block 2	2,583,312	\$1,605,244	\$1,565,096				\$ (0.02) -2.50%
	2,583,480	\$1,895,788	\$1,855,640		TC 3 - N		
			\$ (40,149)	\$ (40,149)	Minimum Charge	\$1,729.43	\$1,729.43
TC 3 - N					0 - 1 Mcf	0	0
Customers	48	\$83,013	\$83,013		Over 1 Mcf	0.72260	\$ 0.7226
Block 1	48	\$0	\$0				\$ - 0.00%
Block 2	332,773	\$240,462	\$240,462				
	332,821	\$323,475	\$323,475				
			\$ -	\$ -			
	Total		\$ (87,725)	\$ (87,725)	Increase / (Decrease)	Volumes	
						3,061,419	54.2% \$ (47,576)
						2,583,480	45.8% \$ (40,149)
						TC 3 - N	0.0% \$ -
						Total TC 3	5,644,899 100% \$ (87,725)

NATIONAL FUEL GAS DISTRIBUTION CORPORATION
NEW YORK DIVISION
COMPARISON OF MONTHLY AND ANNUAL BILLS
RESIDENTIAL - SC 1

	PRESENT RATES	STAFF PROPOSED RATES
FIRST 4 CCF	\$15.54	\$ 15.54
BILLING CHARGE	\$1.07	\$1.04
NEXT 46 CCF	\$0.372554	\$0.383151
OVER 50 CCF	\$0.100813	\$0.103681
MERCHANT FUNCTION CHARGE	\$0.035664	\$0.037360
BASE COST OF GAS	\$0.000000	\$0.000000
DELIVERY ADJUSTMENT CHARGE	\$0.031318	\$0.031318
NATURAL GAS SUPPLY CHARGE	\$0.464117	\$0.464117

USAGE Ccf	MONTHLY BILLS				DIFFERENCE	
	PRESENT \$	PROPOSED \$	PRESENT \$/Ccf	PROPOSED \$/Ccf	AMOUNT \$	PERCENT
0	16.61	16.58			(0.03)	-0.18%
3	18.20	18.18	6.07	6.06	(0.02)	-0.11%
4	18.73	18.71	4.68	4.68	(0.02)	-0.11%
10	24.16	24.21	2.42	2.42	0.05	0.21%
20	33.19	33.37	1.66	1.67	0.18	0.54%
30	42.23	42.53	1.41	1.42	0.30	0.71%
40	51.27	51.69	1.28	1.29	0.42	0.82%
50	60.30	60.84	1.21	1.22	0.54	0.90%
60	66.62	67.21	1.11	1.12	0.59	0.89%
70	72.94	73.57	1.04	1.05	0.63	0.86%
75	76.10	76.76	1.01	1.02	0.66	0.87%
100	91.90	92.67	0.92	0.93	0.77	0.84%
150	123.49	124.49	0.82	0.83	1.00	0.81%
200	155.09	156.32	0.78	0.78	1.23	0.79%
250	186.68	188.14	0.75	0.75	1.46	0.78%
300	218.28	219.96	0.73	0.73	1.68	0.77%
400	281.47	283.61	0.70	0.71	2.14	0.76%
500	344.66	347.26	0.69	0.69	2.60	0.75%
750	502.64	506.38	0.67	0.68	3.74	0.74%
1000	660.62	665.50	0.66	0.67	4.88	0.74%
3000	1,924.44	1,938.45	0.64	0.65	14.01	0.73%
5000	3,188.26	3,211.39	0.64	0.64	23.13	0.73%
10000	6,347.82	6,393.77	0.63	0.64	45.95	0.72%

Month	ANNUAL BILLS			Difference	
	Sales Ccf	Present Rates	Proposed Rates	Amount	Percent
January	172	137.40	\$138.49	\$1.09	2.4%
February	158	128.55	\$129.58	\$1.03	2.4%
March	144	119.70	\$120.67	\$0.97	2.3%
April	112	99.48	\$100.31	\$0.83	2.1%
May	67	71.04	\$71.66	\$0.62	1.8%
June	36	47.65	\$48.02	\$0.37	1.1%
July	17	30.48	\$30.62	\$0.14	0.6%
August	12	25.96	\$26.04	\$0.08	0.4%
September	20	33.19	\$33.37	\$0.18	0.7%
October	49	59.40	\$59.93	\$0.53	1.4%
November	86	83.05	\$83.76	\$0.71	2.0%
December	143	119.07	\$120.04	\$0.97	2.3%
Annual Totals	1016	\$954.97	\$962.49	\$7.52	0.8%

*Calculations exclude revenue taxes

NATIONAL FUEL GAS DISTRIBUTION CORPORATION
NEW YORK DIVISION
COMPARISON OF MONTHLY AND ANNUAL BILLS
GENERAL - SC 3

	CURRENT RATES	STAFF PROPOSED RATES
FIRST 10 CCF	\$17.86	\$ 17.86
BILLING CHARGE	\$1.07	\$1.04
NEXT 490 CCF	\$0.251345	\$0.242781
NEXT 9,500 CCF	\$0.194282	\$0.187662
BALANCE	\$0.156935	\$0.151588
BILLING CHARGE	\$0.021112	\$0.024752
BASE COST OF GAS	\$0.000000	\$0.000000
DELIVERY ADJUSTMENT CHARGE	\$0.042826	\$0.042826
NATURAL GAS SUPPLY CHARGE	\$0.462673	\$0.462673

USAGE	MONTHLY BILLS				DIFFERENCE	
	PRESENT Ccf	PROPOSED \$	PRESENT \$/Ccf	PROPOSED \$/Ccf	AMOUNT \$	PERCENT
0	18.93	18.90			(0.03)	-0.16%
1	19.46	19.43	19.46	19.43	(0.03)	-0.15%
3	20.51	20.49	6.84	6.83	(0.02)	-0.10%
5	21.56	21.55	4.31	4.31	(0.01)	-0.05%
7	22.62	22.61	3.23	3.23	(0.01)	-0.04%
8	23.14	23.14	2.89	2.89	0.00	0.00%
10	24.20	24.20	2.42	2.42	0.00	0.00%
15	28.09	28.07	1.87	1.87	(0.02)	-0.07%
20	31.98	31.93	1.60	1.60	(0.05)	-0.16%
25	35.87	35.80	1.43	1.43	(0.07)	-0.20%
30	39.76	39.66	1.33	1.32	(0.10)	-0.25%
35	43.65	43.53	1.25	1.24	(0.12)	-0.27%
40	47.53	47.39	1.19	1.18	(0.14)	-0.29%
45	51.42	51.26	1.14	1.14	(0.16)	-0.31%
50	55.31	55.12	1.11	1.10	(0.19)	-0.34%
60	63.09	62.85	1.05	1.05	(0.24)	-0.38%
70	70.87	70.58	1.01	1.01	(0.29)	-0.41%
80	78.65	78.31	0.98	0.98	(0.34)	-0.43%
90	86.43	86.05	0.96	0.96	(0.38)	-0.44%
100	94.21	93.78	0.94	0.94	(0.43)	-0.46%
200	172.01	171.08	0.86	0.86	(0.93)	-0.54%
300	249.80	248.38	0.83	0.83	(1.42)	-0.57%
400	327.60	325.69	0.82	0.81	(1.91)	-0.58%
500	405.39	402.99	0.81	0.81	(2.40)	-0.59%
600	477.48	474.78	0.80	0.79	(2.70)	-0.57%
700	549.57	546.57	0.79	0.78	(3.00)	-0.55%
800	621.66	618.36	0.78	0.77	(3.30)	-0.53%
900	693.75	690.15	0.77	0.77	(3.60)	-0.52%
1000	765.84	761.95	0.77	0.76	(3.89)	-0.51%
5000	3,649.41	3,633.60	0.73	0.73	(15.81)	-0.43%
10000	7,253.88	7,223.17	0.73	0.72	(30.71)	-0.42%
15000	10,671.61	10,632.36	0.71	0.71	(39.25)	-0.37%
20000	14,089.34	14,041.56	0.70	0.70	(47.78)	-0.34%
25000	17,507.07	17,450.75	0.70	0.70	(56.32)	-0.32%
50000	34,595.73	34,496.73	0.69	0.69	(99.00)	-0.29%

Month	ANNUAL BILLS			Difference	
	Sales Ccf	Present Rates	Proposed Rates	Amount	Percent
January	485	393.73	\$391.39	-\$2.34	-0.6%
February	415	339.27	\$337.28	-\$1.99	-0.6%
March	386	316.71	\$314.86	-\$1.85	-0.6%
April	339	280.14	\$278.53	-\$1.61	-0.6%
May	245	207.02	\$205.87	-\$1.15	-0.6%
June	133	119.88	\$119.29	-\$0.59	-0.5%
July	53	57.65	\$57.44	-\$0.21	-0.4%
August	25	35.87	\$35.80	-\$0.07	-0.2%
September	39	46.76	\$46.62	-\$0.14	-0.3%
October	152	134.67	\$133.97	-\$0.70	-0.5%
November	275	230.35	\$229.06	-\$1.29	-0.6%
December	448	364.94	\$362.79	-\$2.15	-0.6%
Annual Totals	2995	\$2,526.99	\$2,512.90	-\$14.09	-0.6%

*excludes revenue taxes