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FILE

REGULATORY OPERATIONS

March 31, 2003

Ms. Daisy Crockron  
Docketing Division  
Public Utilities Commission of Ohio  
180 East Broad Street  
Columbus, Ohio 43215

PUCO

2003-03-2 AM 7:36

RECEIVED

Dear Ms. Crockron:

Enclosed please find an original and 15 copies of the Annual Report of The Dayton Power and Light Company being filed pursuant to the Ohio Administrative Code 4901:1-10-26.

Sincerely,

Dona Seger-Lawson  
Director, Regulatory Operations

This is to certify that the images appearing are an accurate and complete reproduction of a case file document delivered in the regular course of business  
Technician                      Date Processed 4-2-07

**2002 Annual Report  
The Dayton Power & Light Company**

Pursuant to Rule 26 of the Electric Service and Safety Standards, Ohio Administrative Code 4901:1-10-26, the Dayton Power & Light Company submits the following Annual Report for the reporting period ending December 31, 2002.

**Section I  
(B1)**

**(B)(1)(a) Description of Service Territory**

The Dayton Power & Light Company serves approximately 505,000 residential, commercial, industrial and governmental customers in a 6,000 square-mile area of West Central Ohio. The service territory spans 24 counties including the Dayton metropolitan area and the surrounding outlying counties. In geographic terms, the majority of the service area is rural.

DP&L's transmission and distribution system includes 165 substations. The company operates over 450 distribution circuits including approximately 12,700 miles of overhead conductor and 4,400 miles of underground cable. DP&L's transmission system includes 106 circuits operated at 69 kV totaling 967 miles and 37 circuits operated at 138 kV totaling 380 miles. DP&L also operates 434 miles of wholly or jointly owned 345 kV transmission lines.

**(B)(1)(b,c) Plan for Future Investment and Safety, Reliability and Service Quality Improvements**

The Dayton Power & Light Company's primary planning objective is to provide safe and reliable service to its customers. This is accomplished through a planning process that includes an ongoing analysis of each component and its response to current and projected peak loads. Short and long-range plans are developed and continually refined based on changing customer needs and the dynamic nature of the distribution system. In addition to capital investments, ongoing maintenance and inspection programs are in place to ensure safety and reliability. A detailed listing of these programs can be found in section (B)(3)(f).

The level of capital investment required may vary considerably from one year to the next depending on the number and scope of projects needed to ensure consistently good reliability at the system and circuit level. Projected capital expenditures for the 2002 – 2005 period are shown below.

	Projected Capital Expenditures (\$000,000)			
	2003	2004	2005	2006
Transmission	3	3	3	3
Distribution	34	35	35	35

Included in the 2003 – 2006 capital plan are the following major upgrades and additions:

Cable Replacement Program – Replace or inject deteriorated bare concentric neutral cable throughout the system.

Expected service date: Ongoing

Overhead Reliability Program – Inspect the least reliable distribution circuits and complete repairs and upgrades as needed.

Expected service date: Ongoing

Transmission Circuits Upgrades – Upgrade various line switches, breakers, breaker disconnect switches, and line traps at selected substations to increase the capacity on 7 transmission circuits.

Expected service date: 2003

Martinsville Substation – Replace existing 5/6.67 MVA transformer with a 10 MVA transformer to serve load growth.

Expected service date: Summer 2003

Hursch Substation – Replace existing 219 amp regulator with a 328 amp regulator to serve load growth.

Expected service date: Summer 2003

Carrollton Circuit AM 1213 – Install parallel riser cable to increase circuit capability to serve load growth.

Expected service date: Summer 2003

Overlook Circuit AK 1202 – Install parallel riser cable to increase circuit capability to serve load growth.

Expected service date: Summer 2003

Benner Substation New Circuit – Add a new distribution circuit from Benner Substation to handle load growth and increase reliability in the Miamisburg area.

Expected service date: Summer 2003/2004

Vandalia Substation New Circuit – Add a new distribution circuit from Vandalia Substation to handle load growth and increase reliability in the Vandalia area.

Expected service date: Summer 2003/2004

Crown Substation – Tie the two 69kV buses together to serve load growth and increase reliability.

Expected service date: 2004

6605 Reconductor – Upgrade a portion of the transmission circuit from Tait Substation to Overlook Substation to serve load growth and increase reliability.

Expected service date: 2004/2005

Clinton County Substation Upgrade – Upgrade facilities to serve load growth and improve area voltage.

Expected service date: 2004/2005

Jackson Center Transformer – Install a 30 MVA substation transformer and associated equipment to serve Plastipak's increased load.

Expected service date: 2005/2006

Huber Heights New Circuit – Add a new distribution circuit from Huber Heights Substation to handle load growth and increase reliability in the Huber Heights area.

Expected service date: 2005

Cisco Substation – Replace existing 20 MVA transformer with a 30 MVA transformer.

Expected service date: 2006

**(B)(1)(d,e) Quality, Safety and Reliability Complaints from Other Utilities**

None.

**Section II**  
**B(2)**

**(B)(2) Results of Previous Annual Report**

During 2002, DP&L accomplished its objective of providing safe and reliable service to its customers.

Actual capital expenditures for 2002 were \$32.7 million for distribution and \$2.8 million for transmission. All listed projects were completed as planned with the exception of the Darby Substation Upgrade which is no longer needed due to load reduction.

### **Section III B(3)**

#### **(B)(3) Condition of Transmission and Distribution Facilities**

The best methodology to assess the physical condition of the distribution system is to measure its performance over a period of several years. Consistently safe and reliable service can only be achieved through a well-maintained distribution system.

System level reliability performance is tracked on a monthly basis and reported annually as required by O.A.C. 4901:1-10-10. A review of Dayton Power & Light's historical reliability performance clearly shows the distribution system to be in excellent condition. Detailed reliability performance information may be found in previous reports submitted in accordance with O.A.C. 4901:1-10-10.

#### **(B)(3)(b) Customer Safety and Reliability Complaints**

DP&L received five pole or equipment related concerns and ten low voltage or outage related concerns. All of the matters have been resolved.

#### **(B)(3)(c,d,e) Transmission and Distribution Expenditures and Average Remaining Depreciation Life**

##### Transmission and Distribution System Expenditures

This information has been reported to FERC on the FERC Form 1 and is publicly available. The website for FERC Form 1 filings is [www.ferc.fed.us](http://www.ferc.fed.us). Transmission construction and maintenance expenditures can be found on page 206, line 53 and page 321, line 99, respectively. Distribution construction and maintenance expenditures can be found on page 206, line 69 and page 322, line 125, respectively. The ratio to the total investment can be calculated as follows:

Transmission: (page 321, line 99b)/(page 206, line 53b)

Distribution: (page 322, line 125b)/(page 206, line 69b)

##### Average Remaining Depreciation Life

The schedule provided in Attachment A shows the details of the calculation of the depreciation rates as filed in the company's electric rate case no. 91-914-EL-AIR. These depreciation rates, stipulated by that rate case, are still in use. The rates were calculated by means of a depreciation study performed by Management Resources International, Inc (MRI).

MRI's approach was consistent with generally accepted approaches employed to develop appropriate depreciation rates. In addition to reviewing and analyzing historical

accounting records, MRI used engineering judgment in assessing the probability of historical experience being representative of expected future experience.

For transmission and distribution property, Dayton Power & Light and MRI have evaluated the impact over time of the likelihood of any significant change in the estimated remaining lives of this property. In summary, the expected life essentially remains the same since there are many additions and interim retirements which equalize the average life of the property.

**(B)(3)(f) Inspection, Maintenance, Repair and Replacement Programs**

Summary of 2002 Maintenance and Inspection Activities

Activity	Frequency	Scheduled Work	Completed Work	% Completed	2002 Program Summary/Results
(I) Transmission					
<b>Transmission Lines</b>					
345 kV Patrol	Quarterly	14 circuits X 4 = 56	56	100%	All patrols completed on schedule.
138 kV Patrol	Every 4 months	37 circuits X 3 = 111	148	100%	All patrols completed on schedule.
69 kV Patrol	Annually	104 circuits	208	100%	All inspections completed on schedule and repairs made as required.
Thermography	As Needed	0	0	N/A	No scheduled inspections of transmission circuits.
<b>Transmission Right of Way</b>					
Line Clearance	As needed	N/A	1,077 spot trims	N/A	Trimming is completed where needed.
Herbicide Application	2 years after trim	0	0	N/A	Program suspended in 2001. Revised program to be launched in 2003.
Visual Inspection	3 times per year	174 miles X 3 = 522	522	100%	All inspections completed as planned.
(II) Substations					
<b>Substation Transformers</b>					
External Visual Inspection	Monthly	1,824	1,824	100%	Part of routine monthly substation inspections.
Thermographic Imaging	Annually	348	348	100%	All inspections completed on schedule and repairs made as required.
Dielectric Oil Breakdown Test	Every 6 years	65	70	100%	Includes completion of backlog from 2001 program.
LTC Maintenance	Every 4 years	49	49	100%	All work completed as planned.

Doble Test	4 years	65	70	100%	All work completed as planned.
<b>Circuit Breakers</b>					
Operational Test	Annually(if needed)	117	117	100%	All testing completed as planned.
Visual Inspection	Monthly	1,824	1,824	100%	Part of routine monthly substation inspections.
Preventive Maintenance	Varies	479	479	100%	All work completed as planned.
<b>Relays</b>					
Calibration 345 kV	6 years	0	0	100%	No work due on the 345 kV system in 2002.
Calibration 138 kV	8 years	2 Subs.	2	100%	All work completed as planned.
Calibration <138 kV	10 Years	12 Subs.	12	100%	All work completed as planned.
<b>Substation Switches</b>					
Thermographic Inspection	Annually	2,103	2,103	100%	All inspections completed on schedule and repairs made as required.
(III) Distribution					
<b>Distribution Overhead Devices</b>					
Visual Inspection of Airbreak Switches	Annually(if not due for maint.)	1,098	1,098	100%	All inspections completed as planned.
Preventive Maintenance of Airbreak Switches	5 years (unitized switches), 3 years (old switches)	100	100	100%	During 2001 and 2002, DP&L focused on the replacement of older switches with new, unitized switches. 48 new switches were installed in 2001 and another 100 in 2002. This focus will continue in 2003.
Capacitor Inspections (fixed banks)	Twice per year	586 banks X 2 = 1,172	1,172	100%	All inspections completed as planned.
Capacitor Inspections (switched banks)	Twice per year	716 banks X 2 = 1,432	1,432	100%	All inspections completed on schedule.
Recloser Inspections	Annually	483	483	100%	All inspections completed on schedule.
Voltage Regulator Inspections	Twice per year	459 X 2 = 918			All inspections completed on schedule.
<b>Distribution Underground Devices</b>					
Inspect URD equipment	Every 5 years	562 grid sections	562	100%	Includes 65 grids that were catch-up work from 2001 and 497 for 2002.



Distribution Lines (Poles, Conductor & Reliability)					
Monitor circuit reliability performance	Semi-Annually	N/A	N/A	N/A	Per O.A.C. 4901:1-10-11, the least-reliable 4% of distribution circuits are reported semi-annually. Each circuit is evaluated and corrective action taken when appropriate.
Monitor branch line reliability performance	Monthly	N/A	N/A	N/A	Least-reliable branch lines are evaluated monthly and corrective action is completed if necessary
Electric Distribution Patrol	Every 5 years	85 circuits	85 circuits	100%	All inspections completed on schedule
Distribution Right of Way					
Distribution Line Clearance Inspection	Every 5 Years	85 circuits	85 circuits	100%	All inspections completed on schedule
Distribution Line Clearance	As Needed	N/A	30 Circuits	N/A	Trimming completed as needed based on inspection results.

#### **(B)(3)(g) Modifications to Inspection, Maintenance, Repair and Replacement Programs**

Revisions to DP&L's Maintenance Plan (submitted and approved under O.A.C. 4901:1-10-27 (E)(2)) are listed below.

##### Herbicide Application

The application of herbicide two years following the initial trim was suspended in 2001 pending an evaluation of the program's efficacy. A modified version of the herbicide application program will be reinstated in 2003. The new program will focus on targeting herbicide applications in areas where it will provide the best preventive benefit. Rather than spraying on a fixed time-based schedule, visual inspections will be used to identify target areas. Herbicide is still applied at the time of trimming.

##### Substation Transformers: Dielectric Oil Breakdown Test & Doble Test

The schedule for these programs will be adjusted to a five-year cycle. Oil breakdown tests will be conducted more frequently and Doble testing less frequently. This change will allow the two programs to be managed together for greater efficiency. Engineering experience and industry trends support this adjustment.

#### **(B)(4) Service Interruptions and Voltage Measurements**

##### Service Interruptions

System level reliability performance is tracked and reported annually as required by O.A.C. 4901:1-10-10.

##### Voltage Measurements

Transmission and distribution bus voltages are monitored and recorded hourly. A sample voltage log is provided in Attachment B.

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**(B)(5) Customer Service Interruptions due to Outside Parties**

None.

## Depreciation Study

## DAYTON POWER &amp; LIGHT COMPANY

## SCHEDULE OF DEPRECIATION ACCRUAL RATES AT DECEMBER 31, 1989

PLANT ACCOUNT	PLANT	DISPERSTION	AVERAGE	ANNUAL	ANNUAL	NET	SALVAGE	ANNUAL
NUMBER	DESCRIPTION	SALANCE	TYPE	DOLLAR	ACCRAUL RATE	ACCRAUL RATE	FACTOR	ACCRAUL RATE
		312/31/89		SERVICE	WITHOUT	WITH		WITH
		(1)	(2)	LIFE	NET SALVAGE	NET SALVAGE	(7)	NET SALVAGE
				(3)	(4)	(5)	(6)	(8)
TRANSMISSION PLANT								
352.10	STRUCTURES AND IMPROVEMENTS	4,218,034	R 1.0	50.0	2.00	84,761	-10	2.20
352.90	STRUCTURES AND IMPROVEMENTS	66,575,368	R 3.0	20.0	2.00	1,331,538	-15	2.20
353.10	STATION EQUIPMENT-NORMAL	7,650,452	R 2.0	21.0	2.00	674,538	-5	2.10
353.60	STATION EQUIPMENT-EDS	10,585,781	R 2.0	50.0	2.00	213,771	-5	2.10
353.90	TOWERS AND FIXTURES	22,853,681	R 4.0	49.6	2.02	5,498	-15	2.32
354.10	TOWERS AND FIXTURES-AISAFDC	90,298	R 2.5	46.7	2.14	48,003	-20	2.37
355.10	POLES & FIXTURES	27,981,636	R 2.5	48.2	2.07	579,220	-3	2.13
355.90	OH CONDUCTORS AND DEVS	123,943	R 2.5	60.0	2.07	2,566	-3	2.13
356.90	OH CONDUCTORS AND DEVS-AISAF	434,290	R 4.0	45.0	1.67	7,253	0	1.67
357.00	UG CONDUIT	801,172	R 4.0	45.0	2.22	17,786	10	2.00
358.00	UG CONDUCTORS & DEVS	9,439	SQ	60.0	1.25	118	0	1.25
359.00	ROADS AND TRAILS							
TOTAL DEPREC TRANS PLANT		142,219,264		41.3	2.42	3,440,317	-6	2.58

ANNUAL ACCRAUAL WITH NET SALVAGE	THEORETICAL RESERVE WITHOUT NET SALVAGE	THEORETICAL RESERVE WITH NET SALVAGE	ALLOCATED BOOK RESERVE @ 12/31/89	INDICATED RESERVE VARIANCE	AVERAGE DOLLAR REMAINING LIFE	AMORT. OF INDICATED RESERVE VARIANCE	ANNUAL ACCRAUAL WITH AMORTIZATION	ANNUAL ACCRAUAL RATE WITH AMORTIZATION
(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
117,550	2,148,080	2,362,888	2,184,397	178,581	24.9	7,172	129,722	2.59
1,259,236	19,715,181	20,700,940	19,136,418	1,564,522	31.6	46,563	1,309,799	2.88
92,117	569,719	560,719	22,538,341	42,378	3.1	8,309	103,506	7.88
2,092,536	17,057,104	23,879,946	22,023,163	1,804,783	26.6	47,849	2,163,405	3.80
1,226,886	15,006,924	17,237,963	15,923,652	1,304,311	25.9	50,359	1,277,215	3.00
81,298	1,796,607	1,886,437	1,753,865	122,572	31.8	4,583	85,779	2.02
1,434,019	11,459,503	13,178,428	12,182,438	995,990	28.8	34,583	1,468,632	3.09
2,433,988	31,639,877	31,839,877	29,453,504	2,486,373	30.9	77,876	2,313,864	2.34
763,437	8,410,775	12,416,163	11,662,666	953,497	16.5	57,788	821,245	2.34
937,331	5,729,656	7,162,070	6,620,793	541,276	27.3	19,827	957,158	3.46
831,645	9,751,665	9,751,665	9,014,679	737,306	20.3	36,306	867,951	3.27
452,409	2,634,060	3,160,872	2,921,982	238,890	13.0	18,376	470,755	6.24
7,905	151,730	151,730	140,263	11,467	30.8	372	8,277	2.09
1,422	20,208	20,208	18,681	1,527	25.8	59	1,481	2.60
11,739,867	126,282,109	144,529,926	133,606,739	10,923,187	27.0	429,922	12,169,789	3.03

DAYTON POWER & LIGHT COMPANY

SCHEDULE OF DEPRECIATION ACCRUAL RATES AT DECEMBER 31, 1989

NUMBER	PLANT ACCOUNT DESCRIPTION	PLANT BALANCE 312/31/89	DISPERSTION TYPE	AVERAGE DOLLAR SERVICE LIFE	ANNUAL ACCURUAL RATE WITHOUT NET SALVAGE	ANNUAL ACCURUAL WITHOUT NET SALVAGE	NET SALVAGE X	NET SALVAGE FACTOR	ANNUAL ACCURUAL RATE WITH NET SALVAGE
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
DISTRIBUTION PLANT									
361.00	STRUCTURES AND IMPROVEMENTS	4,817,429	R 3.0	45.0	2.22	306,951	-10	1.10	2.44
362.00	STATION EQUIPMENT-NORMAL	59,841,573	R 2.0	50.0	2.60	1,189,273	-5	1.05	2.10
362.60	STATION EQUIPMENT-EDS	1,847,574	R 3.0	71.0	9.89	1,185,497	0	1.00	9.09
364.00	POLES, TOWERS, & FIXTURES	56,246,144	R 1.0	26.0	2.83	1,447,439	-40	1.40	3.68
365.00	OH CONDUCTIONS AND DEVICES	42,589,162	R 1.0	26.0	2.83	1,067,979	-15	1.15	2.88
366.00	UG CONDUIT	4,236,396	R 3.0	38.0	1.38	1,276,465	-5	1.05	1.91
367.00	UG CONDUCTORS AND DEVICES	47,484,071	S 0.0	38.0	2.65	1,246,831	-15	1.15	1.91
368.00	LINE TRANSFORMERS	107,312,239	S 1.0	44.0	2.27	2,435,988	6	1.94	2.27
369.10	OH SERVICES	16,779,284	R 3.0	33.0	3.03	508,442	-50	1.50	4.35
369.20	UG SERVICES	26,182,421	R 3.0	33.0	2.86	748,817	-25	1.25	3.56
370.00	METERS	26,570,116	S 1.0	32.0	3.13	831,685	0	1.00	3.13
371.10	INST ON CUST PREM-POL	7,540,147	R 0.5	28.0	5.00	377,067	-20	1.20	6.00
371.20	INST ON CUST PREM-OTHER	395,272	R 5.0	50.0	2.00	7,985	0	1.00	2.00
372.00	LEASED PROP ON CUST PREM	56,865	SQ	40.0	2.50	1,422	0	1.00	2.50
	TOTAL DEPREC DISTR PLANT	401,948,883		39.4	2.54	10,201,531	-15	1.15	2.92

ANNUAL ACCRUAL WITH NET SALVAGE	THEORETICAL RESERVE WITHOUT NET SALVAGE	THEORETICAL RESERVE WITH NET SALVAGE	ALLOCATED BOOK RESERVE 3/12/31/89	INDICATED RESERVE VARIANCE	AVERAGE DOLLAR REMAINING LIFE	AMORY. OF INDICATED RESERVE VARIANCE	ANNUAL ACCRUAL WITH AMORTIZATION	ANNUAL ACCRUAL RATE WITH AMORTIZATION
(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
93,237	1,304,224	1,434,646	1,261,900	172,746	34.6	4,993	98,230	2.32
1,340	8,897	9,787	9,881	94	42.7	55,929	1,338	2.23
1,398,981	16,583,728	17,416,164	15,320,832	2,097,332	37.5	93,962	1,454,810	2.18
694,518	4,036,218	4,336,218	3,550,214	486,004	5.2	20,491	787,980	10.31
11,725	74,502	78,017	78,769	752	43.3	11	11,788	2.10
245,519	4,335,781	4,986,148	4,385,763	600,385	29.3	29,649	266,019	2.51
6,314	41,056	47,214	47,670	456	42.1	11	6,303	2.32
587,260	6,750,762	8,100,914	7,125,478	975,436	32.9	36,782	616,909	2.70
2,321	13,482	16,178	16,334	156	39.7	4	2,317	2.57
596,009	9,460,887	9,744,508	8,571,165	1,173,343	31.9	4	632,791	2.25
2,640	17,940	18,478	18,656	178	41.2	480	2,636	2.13
7,253	154,299	154,299	135,720	18,579	38.7	1,960	7,733	1.78
16,623	403,417	363,075	319,357	43,718	22.3	7	17,833	2.24
118	3,085	3,085	2,714	371	53.9	7	125	1.32
3,662,358	43,192,878	46,410,731	40,844,453	5,566,278	28.8	243,715	3,906,073	2.75

Attachment E

Sample Voltage Log

WEDNESDAY 03/19/03 15:33:45

PAGE 1

LOG DIRECTORY

----- 12.0V VOLTAGE LOG -----

	AIRPORT	FAIRBORN EAST	FAIRBORN WEST	DARBY	FAIRBORN EAST	FAIRBORN WEST	FAIRBORN NORTH	FAIRBORN SOUTH
0100	12.8	12.8	12.8	12.8	12.1	12.0	12.9	12.8
0200	12.8	12.8	12.8	12.9	12.1	12.1	12.9	12.9
0300	12.8	12.8	12.8	12.8	12.1	12.1	12.9	12.8
0400	12.8	12.8	12.8	12.8	12.1	12.1	12.9	12.8
0500	12.7	12.8	12.8	12.9	12.0	12.0	12.8	12.8
0600	12.7	12.8	12.7	13.0	12.0	12.1	12.8	12.8
0700	12.7	12.8	12.7	13.0	12.1	12.1	12.8	12.8
0800	12.7	12.8	12.8	13.1	12.1	12.1	12.8	12.8
0900	12.7	12.8	12.9	13.1	12.1	12.1	12.8	12.8
1000	12.7	12.8	12.8	13.1	12.2	12.2	12.8	12.8
1100	12.7	12.8	12.9	13.1	12.2	12.2	12.8	12.8
1200	12.7	12.8	12.8	13.0	12.2	12.2	12.8	12.9
1300	12.6	12.8	12.8	13.0	12.2	12.1	12.8	12.8
1400	12.7	12.9	12.8	13.1	12.2	12.2	12.8	12.8
1500	12.6	12.7	12.7	13.0	12.1	12.1	12.8	12.8
1600	12.7	12.8	12.7	13.1	12.2	12.2	12.8	12.8
1700	12.7	12.8	12.8	13.1	12.2	12.2	12.8	12.8
1800	12.8	12.8	12.7	13.0	12.3	12.3	12.8	12.8
1900	12.8	12.7	12.7	13.1	12.1	12.1	12.8	12.8
2000	12.7	12.7	12.8	13.1	12.2	12.2	12.8	12.8
2100	12.8	12.8	12.8	13.1	12.3	12.2	13.0	13.0
2200	12.8	12.8	12.9	13.0	12.3	12.3	13.0	13.0
2300	12.7	12.7	12.8	13.0	12.2	12.0	12.8	12.8
2400	12.7	12.7	12.8	12.8	12.0	12.0	12.8	12.8
2500								