

**EXHIBIT NO. _____ (JAD-3)
DOCKET NO. UE-04____/UG-04____
2004 PSE GENERAL RATE CASE
WITNESS: JEFFREY A. DUBIN**

**BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION**

**WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION,**

Complainant,

v.

PUGET SOUND ENERGY, INC.,

Respondent.

**Docket No. UE-04____
Docket No. UG-04____**

**SECOND EXHIBIT TO PREFILED DIRECT TESTIMONY
OF JEFFREY A. DUBIN (NONCONFIDENTIAL)
ON BEHALF OF PUGET SOUND ENERGY, INC.**

APRIL 5, 2004

PUGET'S AVERAGE HOURLY GENERATION IN MID-COLUMBIA AND WESTSIDE (60 YEARS)



EXHIBIT NO. _____ (JAD-4)
DOCKET NO. UE-04____/UG-04____
2004 PSE GENERAL RATE CASE
WITNESS: JEFFREY A. DUBIN

BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

**WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION,**

Complainant,

v.

PUGET SOUND ENERGY, INC.,

Respondent.

Docket No. UE-04____
Docket No. UG-04____

**THIRD EXHIBIT TO PREFILED DIRECT TESTIMONY
OF JEFFREY A. DUBIN (NONCONFIDENTIAL)
ON BEHALF OF PUGET SOUND ENERGY, INC.**

APRIL 5, 2004

PUGET'S AVERAGE HOURLY GENERATION IN MID-COLUMBIA AND WESTSIDE (40 YEARS)

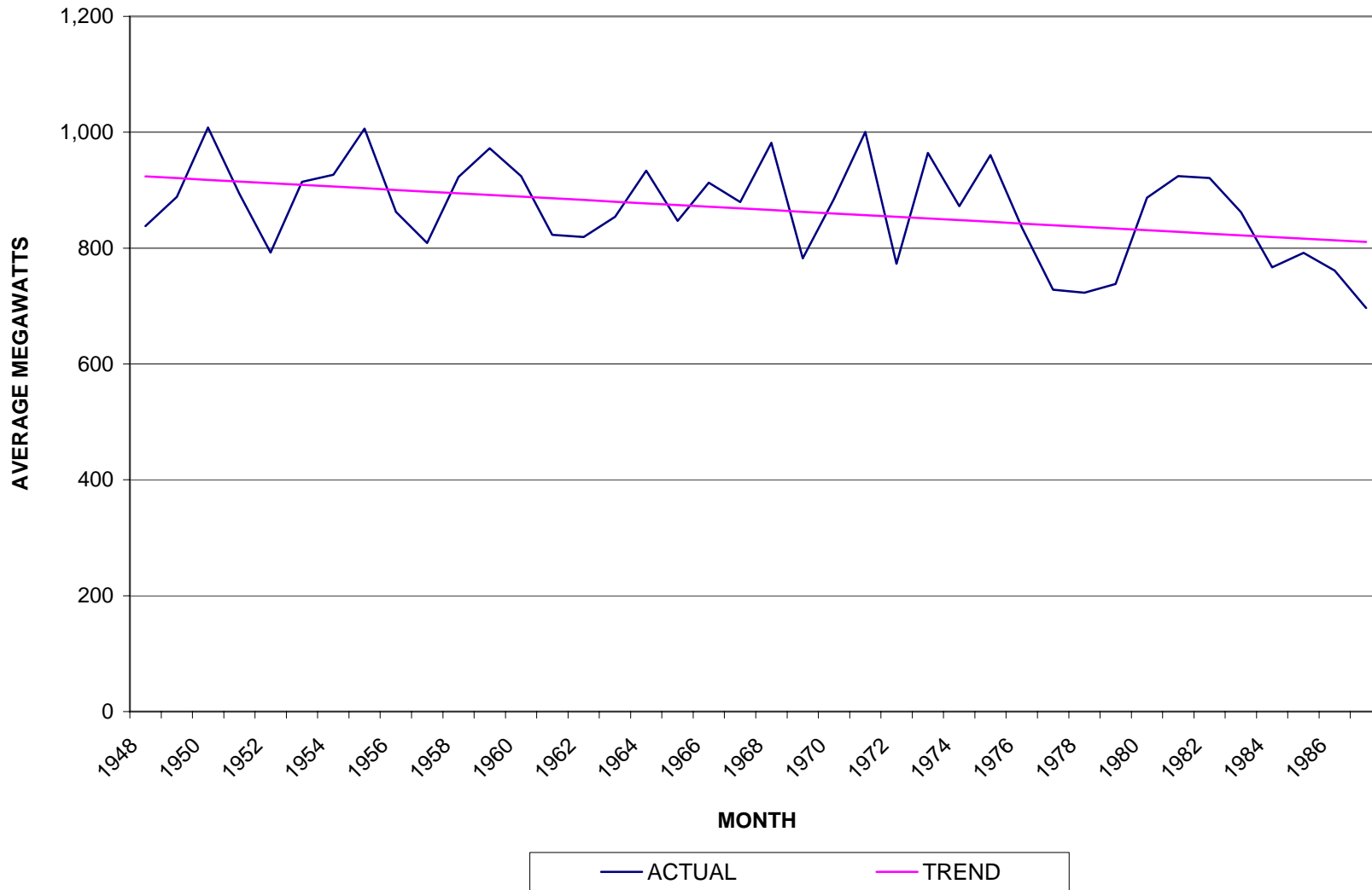


EXHIBIT NO. _____ (JAD-5)
DOCKET NO. UE-04____/UG-04____
2004 PSE GENERAL RATE CASE
WITNESS: JEFFREY A. DUBIN

BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

**WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION,**

Complainant,

v.

PUGET SOUND ENERGY, INC.,

Respondent.

Docket No. UE-04____
Docket No. UG-04____

**FOURTH EXHIBIT TO PREFILED DIRECT TESTIMONY
OF JEFFREY A. DUBIN (NONCONFIDENTIAL)
ON BEHALF OF PUGET SOUND ENERGY, INC.**

APRIL 5, 2004

Columbia River Basin



Source: U.S. Army Corps of Engineers North Pacific Region Water Management Division
<http://www.nwd-wc.usace.army.mil/report/colmap.htm>

EXHIBIT NO. _____ (JAD-6)
DOCKET NO. UE-04____/UG-04____
2004 PSE GENERAL RATE CASE
WITNESS: JEFFREY A. DUBIN

BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

**WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION,**

Complainant,

v.

PUGET SOUND ENERGY, INC.,

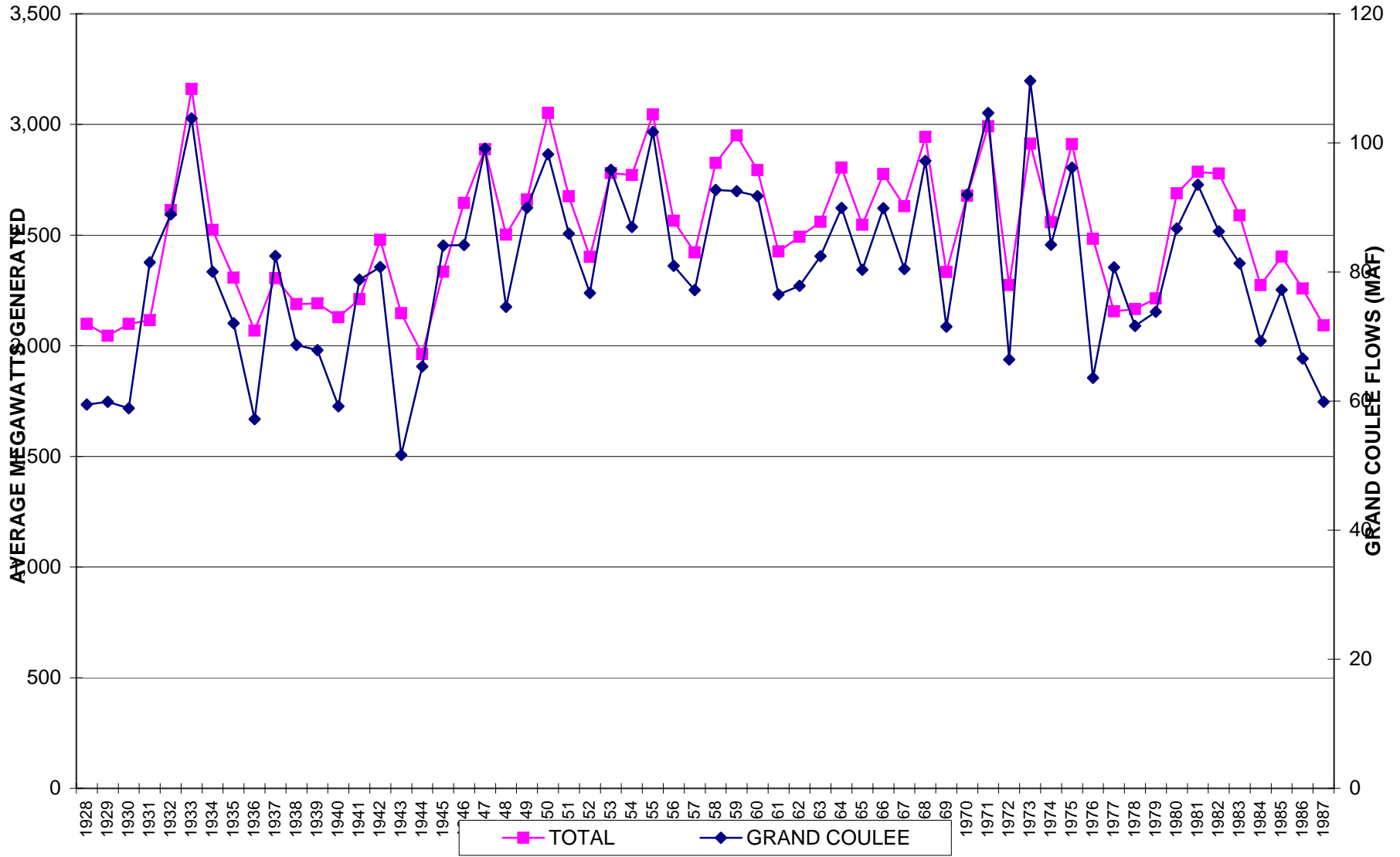
Respondent.

Docket No. UE-04____
Docket No. UG-04____

**FIFTH EXHIBIT TO PREFILED DIRECT TESTIMONY
OF JEFFREY A. DUBIN (NONCONFIDENTIAL)
ON BEHALF OF PUGET SOUND ENERGY, INC.**

APRIL 5, 2004

TIME PLOTS OF TOTAL GENERATION AND GRAND COULEE FLOW



SCATTER PLOT OF TOTAL GENERATION AND GRAND COULEE FLOWS

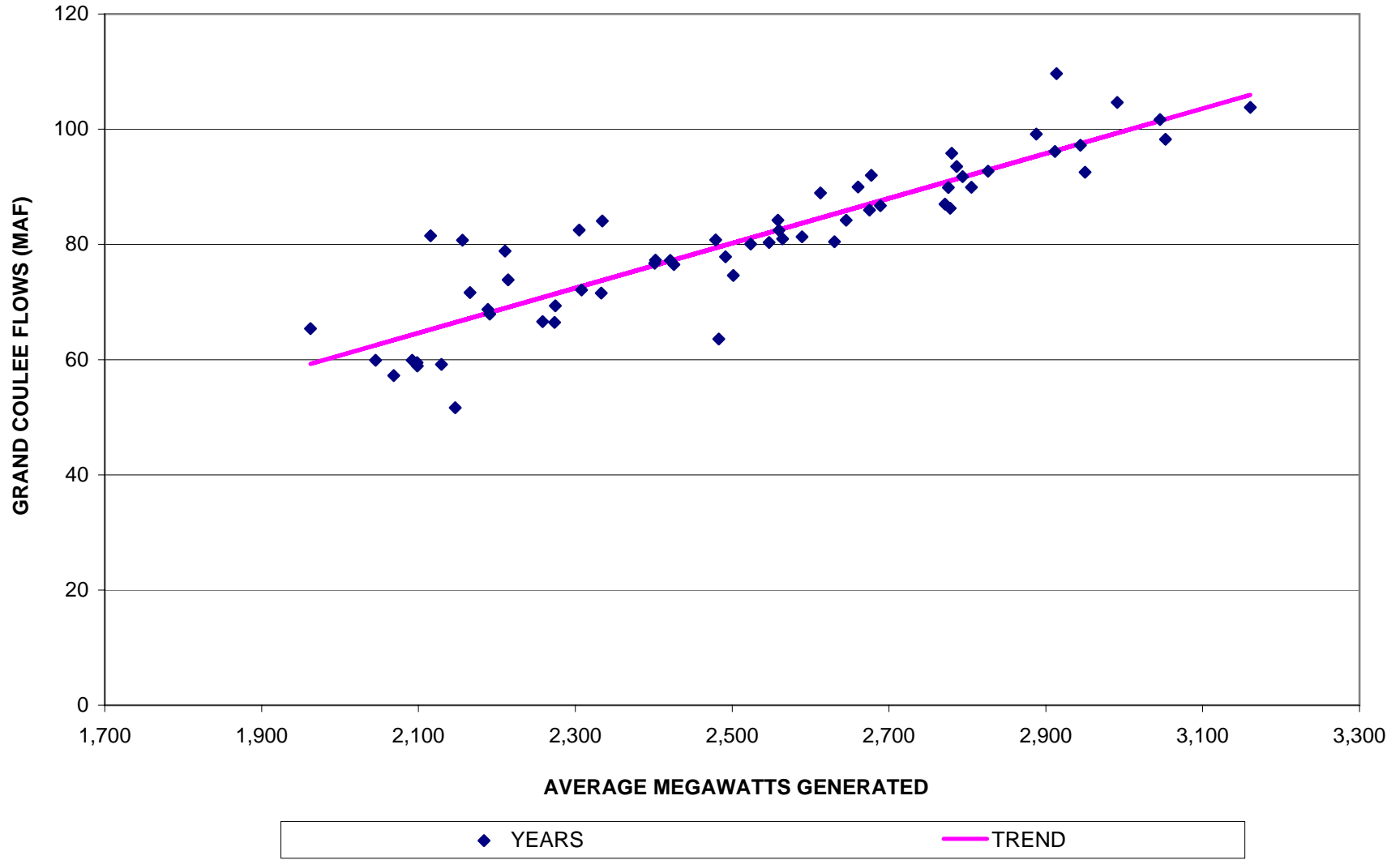


EXHIBIT NO. _____ (JAD-7)
DOCKET NO. UE-04____/UG-04____
2004 PSE GENERAL RATE CASE
WITNESS: JEFFREY A. DUBIN

BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

**WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION,**

Complainant,

v.

PUGET SOUND ENERGY, INC.,

Respondent.

Docket No. UE-04____
Docket No. UG-04____

**SIXTH EXHIBIT TO PREFILED DIRECT TESTIMONY
OF JEFFREY A. DUBIN (NONCONFIDENTIAL)
ON BEHALF OF PUGET SOUND ENERGY, INC.**

APRIL 5, 2004

FREQUENCY DISTRIBUTION FOR PUGET GENERATION (60 YEARS)

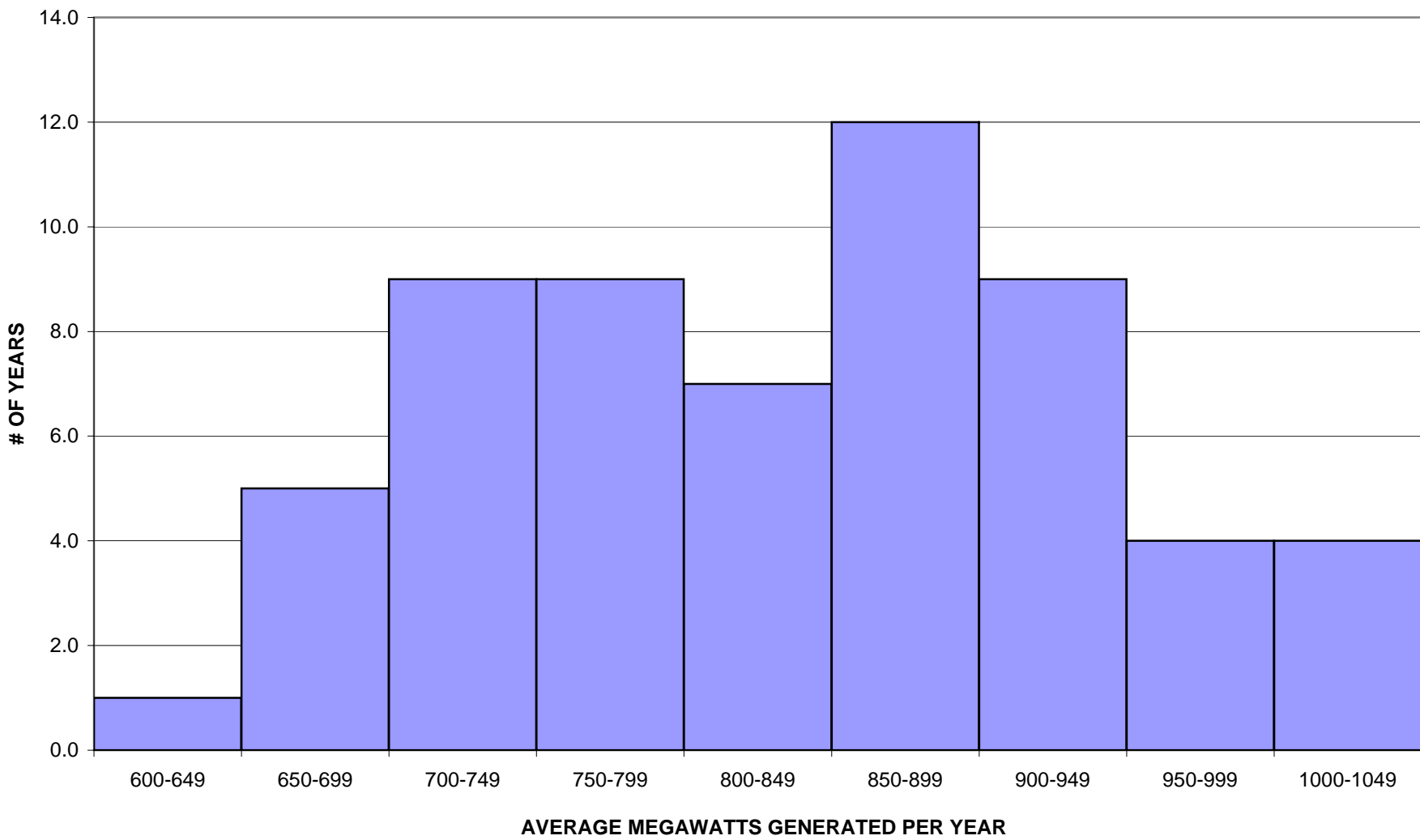


EXHIBIT NO. _____ (JAD-8)
DOCKET NO. UE-04____/UG-04____
2004 PSE GENERAL RATE CASE
WITNESS: JEFFREY A. DUBIN

**BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION**

**WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION,**

Complainant,

v.

PUGET SOUND ENERGY, INC.,

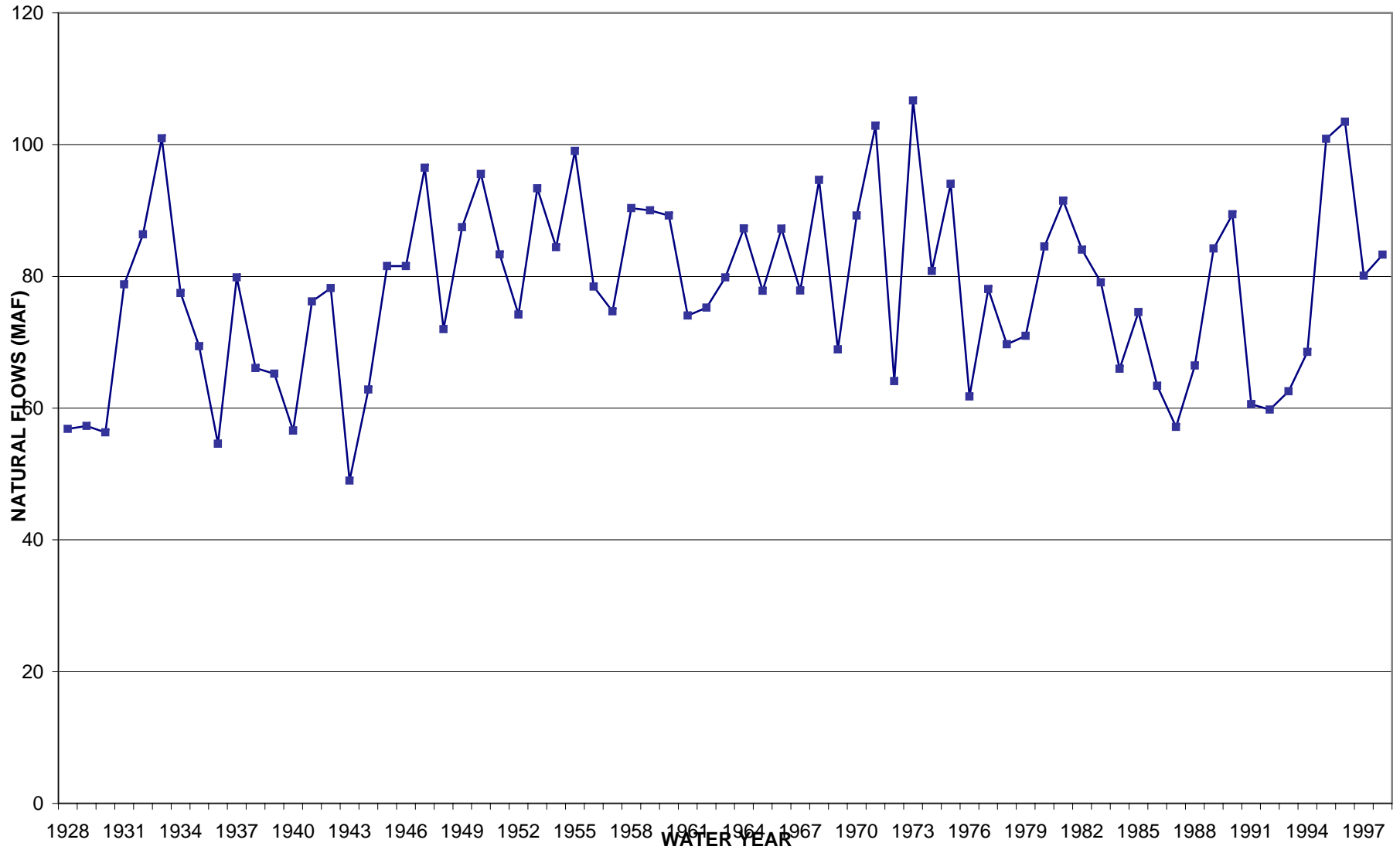
Respondent.

Docket No. UE-04____
Docket No. UG-04____

**SEVENTH EXHIBIT TO PREFILED DIRECT TESTIMONY
OF JEFFREY A. DUBIN (NONCONFIDENTIAL)
ON BEHALF OF PUGET SOUND ENERGY, INC.**

APRIL 5, 2004

70-YEAR DATA OF GRAND COULEE FLOWS



**EXHIBIT NO. _____ (JAD-9)
DOCKET NO. UE-04____/UG-04____
2004 PSE GENERAL RATE CASE
WITNESS: JEFFREY A. DUBIN**

**BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION**

**WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION,**

Complainant,

v.

PUGET SOUND ENERGY, INC.,

Respondent.

**Docket No. UE-04____
Docket No. UG-04____**

**EIGHTH EXHIBIT TO PREFILED DIRECT TESTIMONY
OF JEFFREY A. DUBIN (NONCONFIDENTIAL)
ON BEHALF OF PUGET SOUND ENERGY, INC.**

APRIL 5, 2004

GENERATION FORECASTS: CONSTANT (60 YEARS)

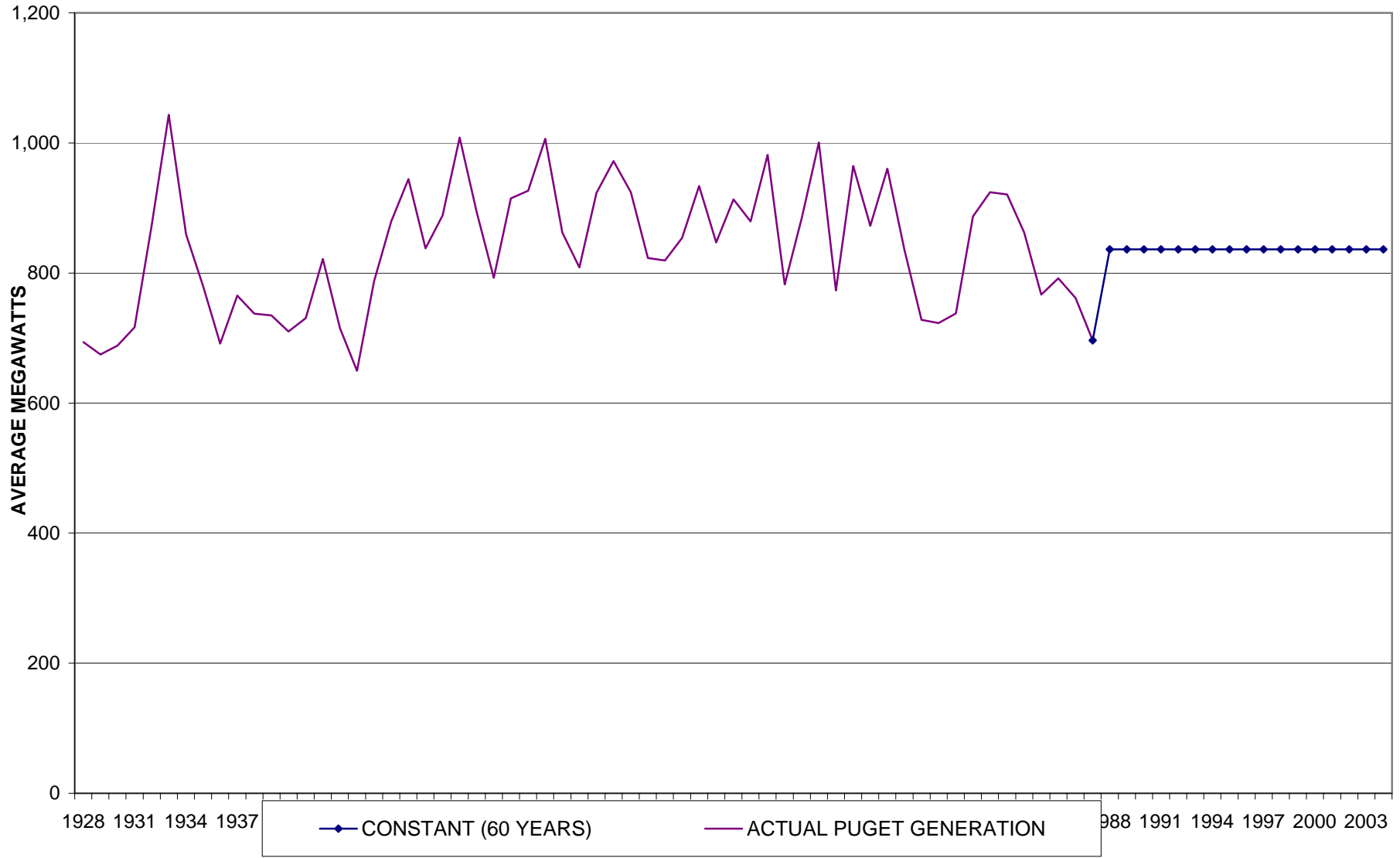


EXHIBIT NO. _____ (JAD-10)
DOCKET NO. UE-04____/UG-04____
2004 PSE GENERAL RATE CASE
WITNESS: JEFFREY A. DUBIN

BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

**WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION,**

Complainant,

v.

PUGET SOUND ENERGY, INC.,

Respondent.

Docket No. UE-04____
Docket No. UG-04____

**NINTH EXHIBIT TO PREFILED DIRECT TESTIMONY
OF JEFFREY A. DUBIN (NONCONFIDENTIAL)
ON BEHALF OF PUGET SOUND ENERGY, INC.**

APRIL 5, 2004

GENERATION FORECASTS: ARIMA100 (60 YEARS)

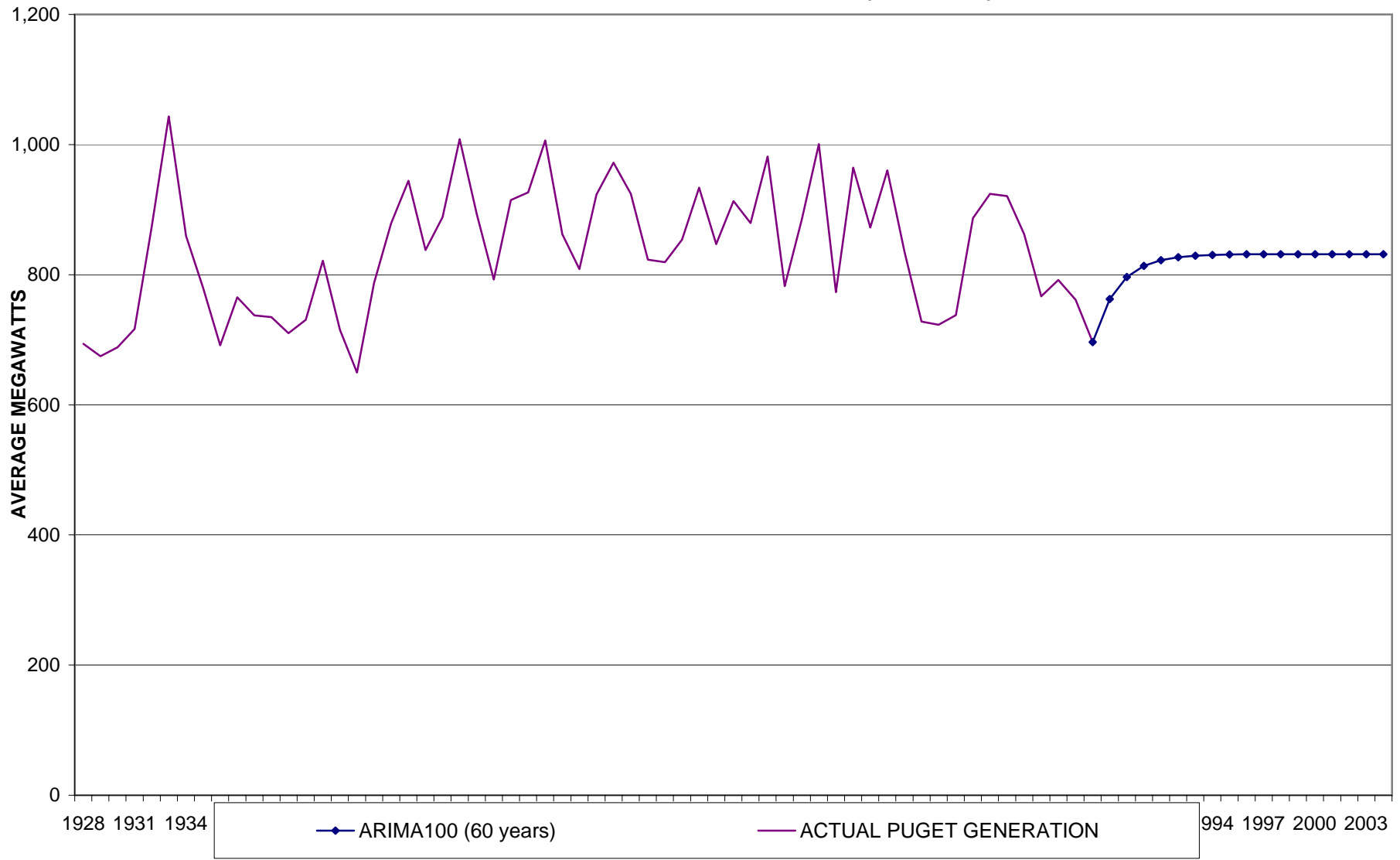


EXHIBIT NO. _____ (JAD-11)
DOCKET NO. UE-04____/UG-04____
2004 PSE GENERAL RATE CASE
WITNESS: JEFFREY A. DUBIN

BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

**WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION,**

Complainant,

v.

PUGET SOUND ENERGY, INC.,

Respondent.

Docket No. UE-04____
Docket No. UG-04____

**TENTH EXHIBIT TO PREFILED DIRECT TESTIMONY
OF JEFFREY A. DUBIN (NONCONFIDENTIAL)
ON BEHALF OF PUGET SOUND ENERGY, INC.**

APRIL 5, 2004

GENERATION FORECASTS: ARIMA202 (60 YEARS)

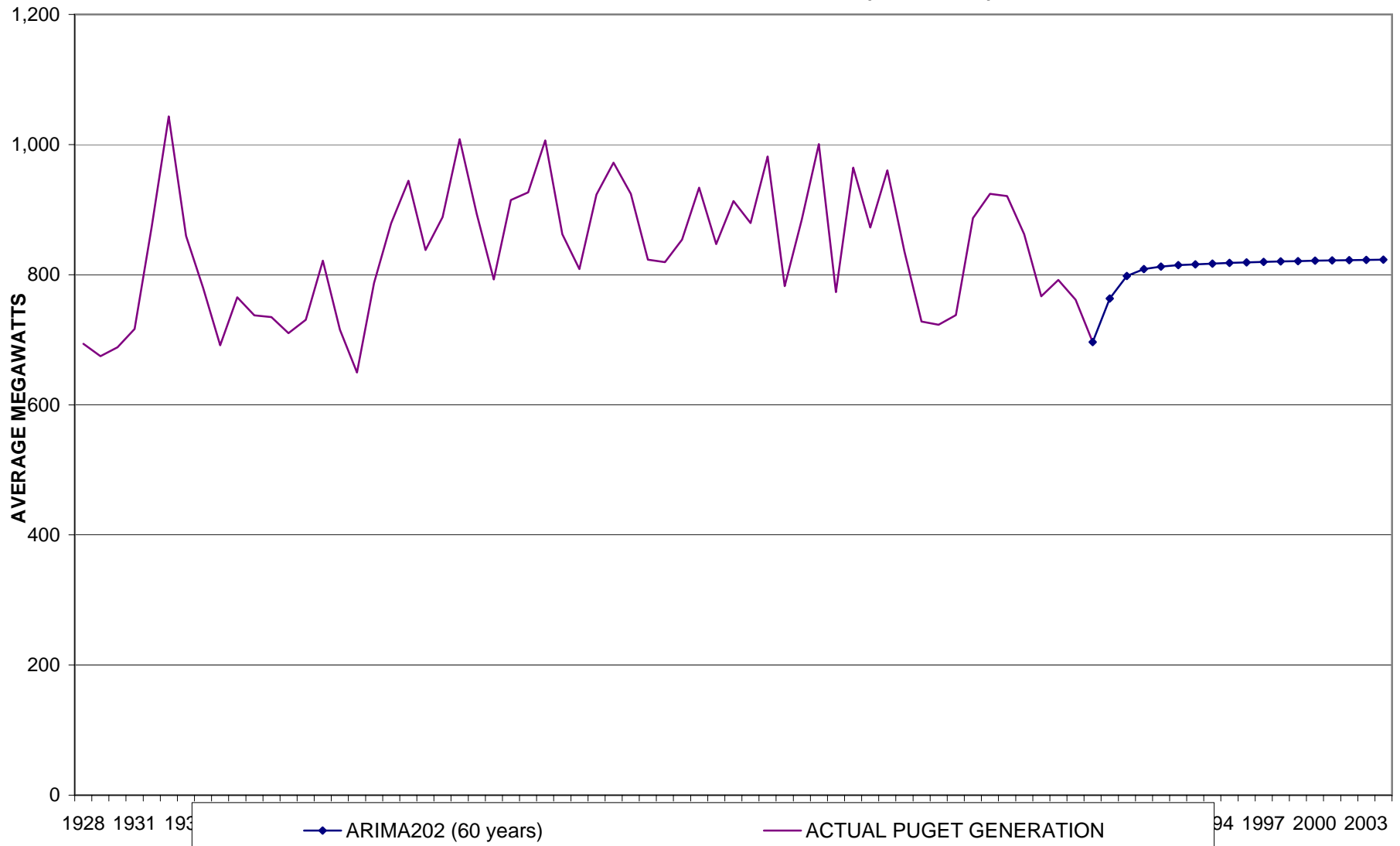


EXHIBIT NO. _____ (JAD-12)
DOCKET NO. UE-04____/UG-04____
2004 PSE GENERAL RATE CASE
WITNESS: JEFFREY A. DUBIN

**BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION**

**WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION,**

Complainant,

v.

PUGET SOUND ENERGY, INC.,

Respondent.

Docket No. UE-04____
Docket No. UG-04____

**ELEVENTH EXHIBIT TO PREFILED DIRECT TESTIMONY
OF JEFFREY A. DUBIN (NONCONFIDENTIAL)
ON BEHALF OF PUGET SOUND ENERGY, INC.**

APRIL 5, 2004

GENERATION FORECASTS: ARIMA100 SHIFT (60 YEARS)

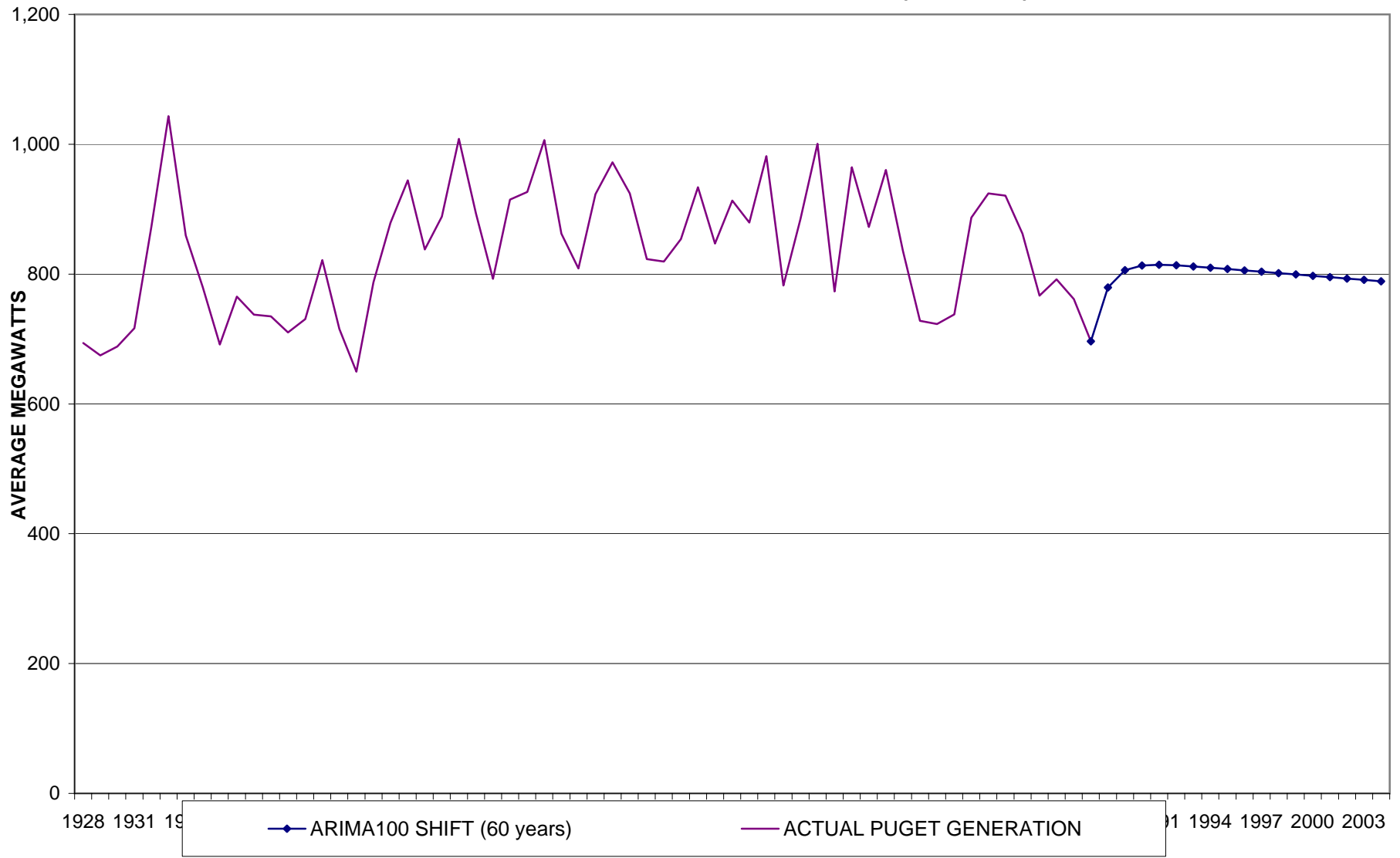


EXHIBIT NO. _____ (JAD-13)
DOCKET NO. UE-04____/UG-04____
2004 PSE GENERAL RATE CASE
WITNESS: JEFFREY A. DUBIN

**BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION**

**WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION,**

Complainant,

v.

PUGET SOUND ENERGY, INC.,

Respondent.

Docket No. UE-04____
Docket No. UG-04____

**TWELFTH EXHIBIT TO PREFILED DIRECT TESTIMONY
OF JEFFREY A. DUBIN (NONCONFIDENTIAL)
ON BEHALF OF PUGET SOUND ENERGY, INC.**

APRIL 5, 2004

GENERATION FORECASTS: ARIMA202 SHIFT (60 YEARS)

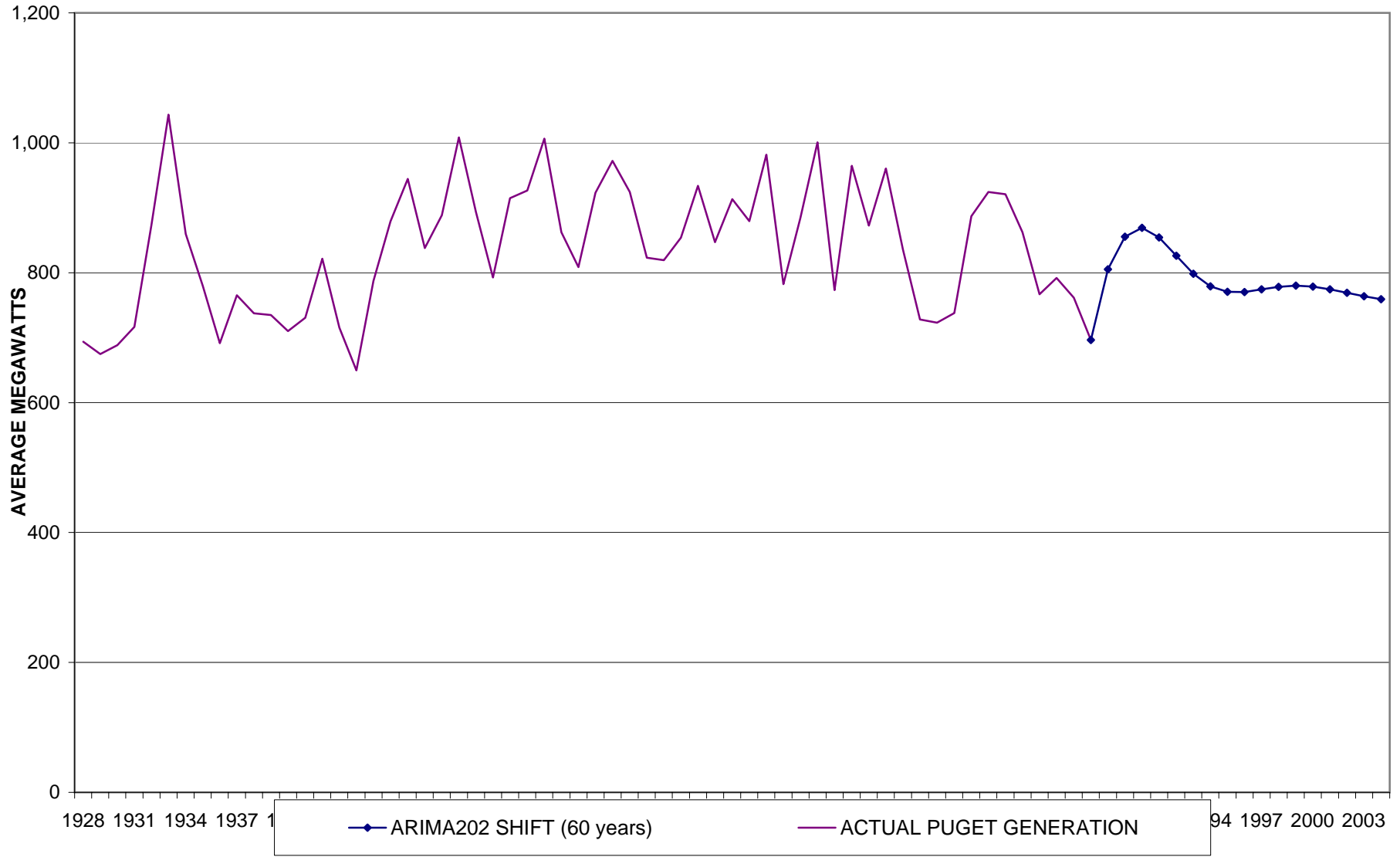


EXHIBIT NO. _____ (JAD-14)
DOCKET NO. UE-04____/UG-04____
2004 PSE GENERAL RATE CASE
WITNESS: JEFFREY A. DUBIN

BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

**WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION,**

Complainant,

v.

PUGET SOUND ENERGY, INC.,

Respondent.

Docket No. UE-04____
Docket No. UG-04____

**THIRTEENTH EXHIBIT TO PREFILED DIRECT TESTIMONY
OF JEFFREY A. DUBIN (NONCONFIDENTIAL)
ON BEHALF OF PUGET SOUND ENERGY, INC.**

APRIL 5, 2004

ESTIMATED COST DIFFERENCE BASED ON ARIMA MODELS AND 60 YEAR PERIOD

MODEL	40 YEAR BASELINE: AVG FROM HYDRO DATA (MWs / HOUR)	60 YEAR FORECAST: 2005 MODEL PREDICTION (MWs / HOUR)	% DIFFERENCE	PUGET 40 YEAR BASELINE (MWs / HOUR)	DIFFERENCE (MWs / HOUR)	DIFFERENCE (MWHs / YEAR)	FACTOR RELATIVE TO PUGETS \$11.2 MILLION	ESTIMATED COST DIFFERENCE (\$ MILLIONS)
CONSTANT (60 years)	867.1	836.3	3.5%	837.1	29.7	260,198.4	1.05	11.79
ARIMA100 (60 years)	867.1	831.6	4.1%	837.1	34.3	300,329.2	1.22	13.61
ARIMA202 (60 years)	867.1	823.5	5.0%	837.1	42.1	368,975.5	1.49	16.72
ARIMA100 WITH STRUCTURAL SHIFT (60 years)	867.1	786.9	9.3%	837.1	77.4	678,369.6	2.75	30.74
ARIMA202 WITH STRUCTURAL SHIFT (60 years)	867.1	755.2	12.9%	837.1	108.0	945,990.4	3.83	42.86