Integrated Energy Policy Workshop
Hydropower System – Energy and Environment

June 5, 2003

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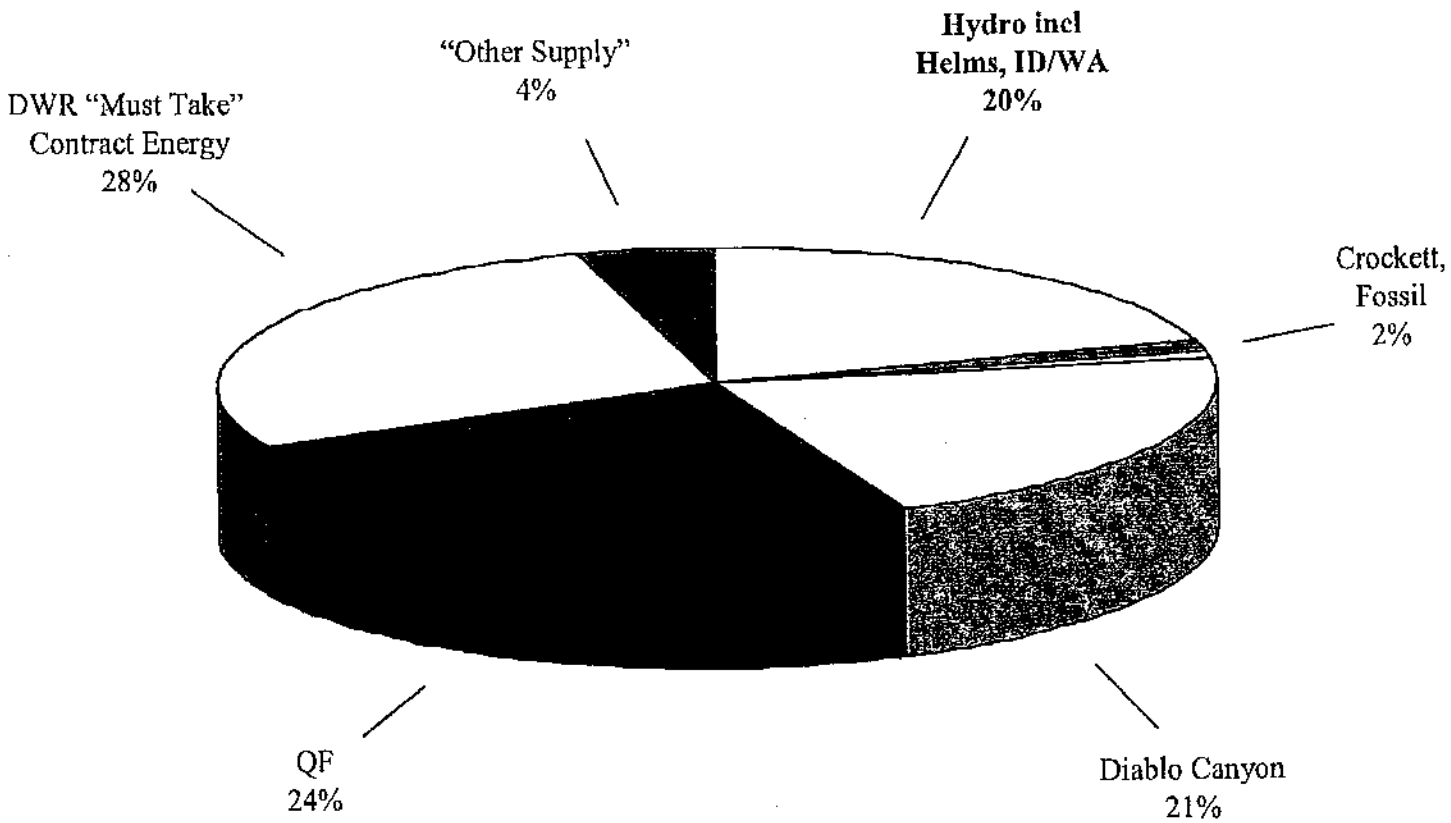
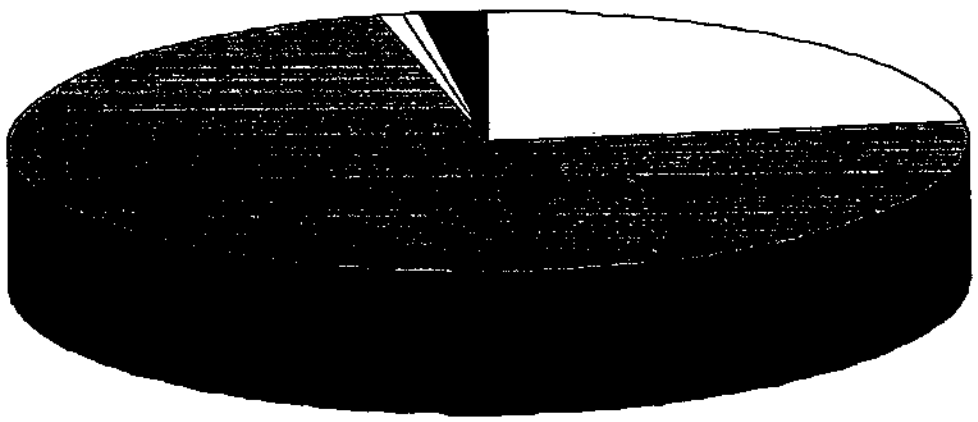
PG&E Supply Portfolio

GWH-Energy



Recent and Near Future Additions to California Generation Capacity

5 years: 6/1/00 – 6/1/05



Source: CEC Data

"The five leading States for renewable generation during 2000 were: Washington, California, Oregon, New York, and Idaho. Hydroelectric generation dominated renewable generation in each State. Despite the decline in hydropower output, these States accounted for over two-thirds of total renewable electricity generated in the United States."

- Department of Energy,
2002 Energy Information
Administration Report

Use of PG&E's 3896 MW of hydropower in California makes it possible to avoid annual emissions of:

- 7.4 million tons of carbon dioxide
- 2,900 tons of nitrogen oxide
  - Equivalent to 223,000 cars
- 3,400 tons of carbon monoxide

Hydro as System Peak-Shaving Resource

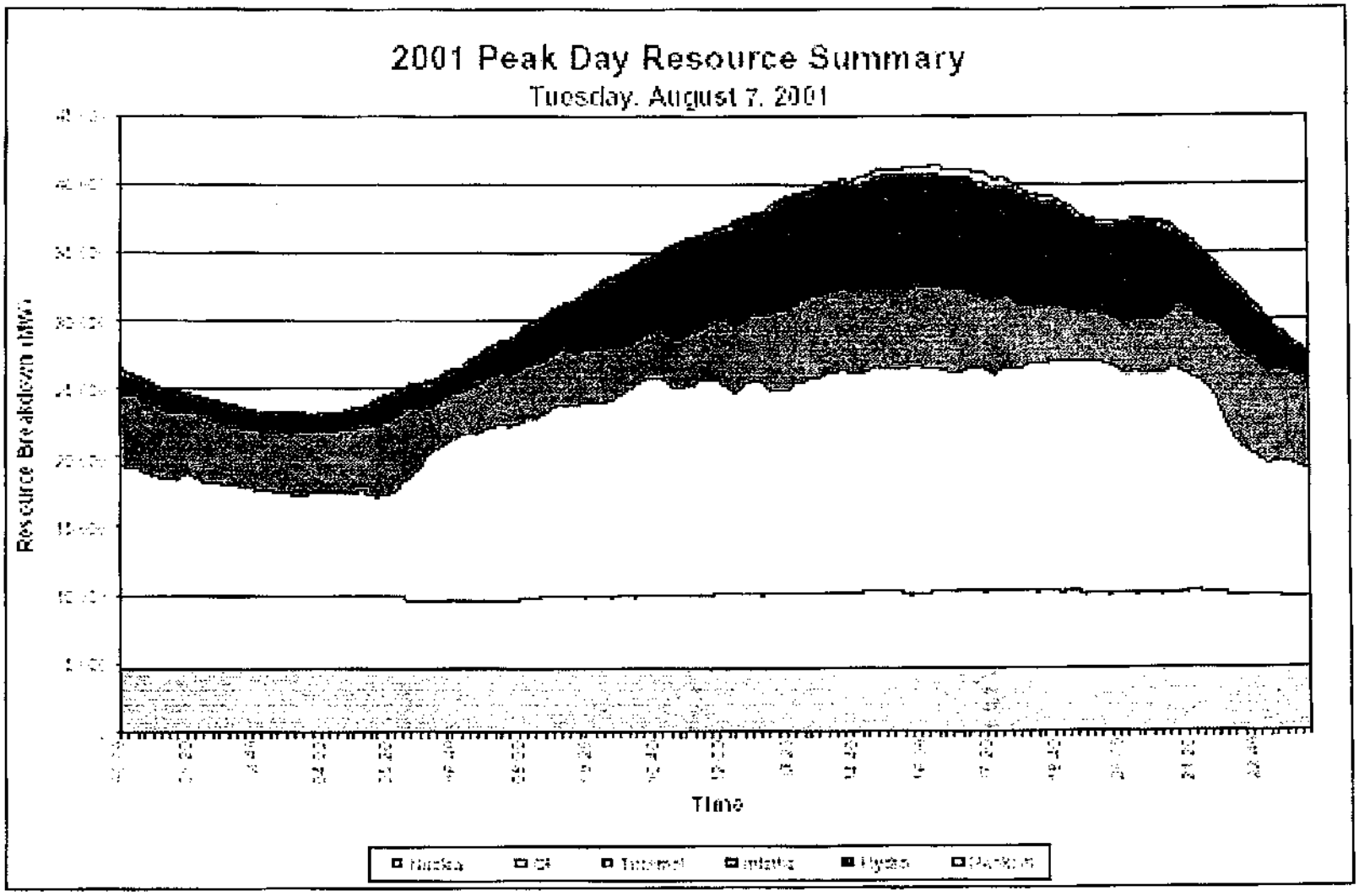
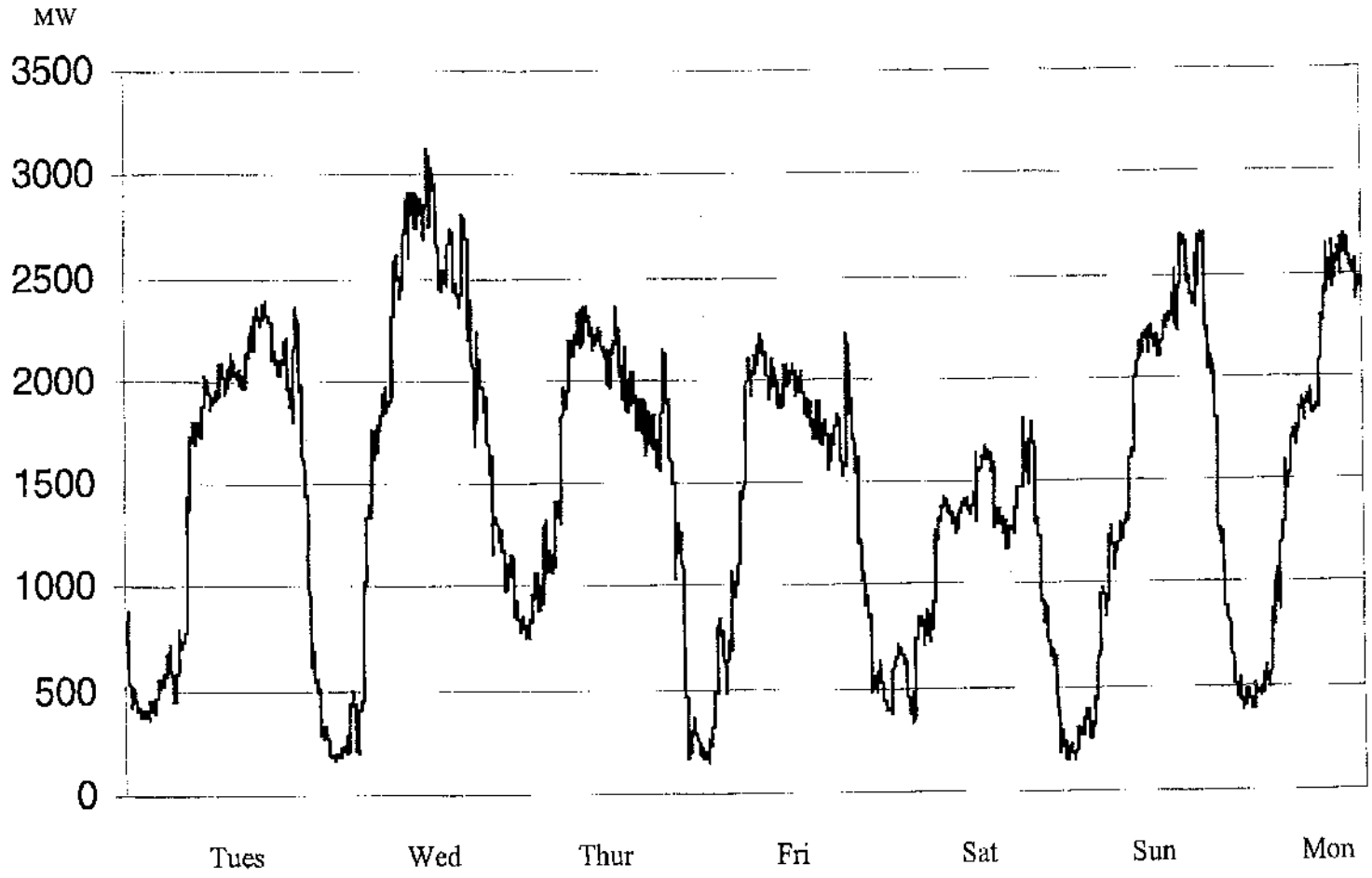


Figure I-A: The ISO Control Area Resource Breakdown by Technology for August 7, 2001

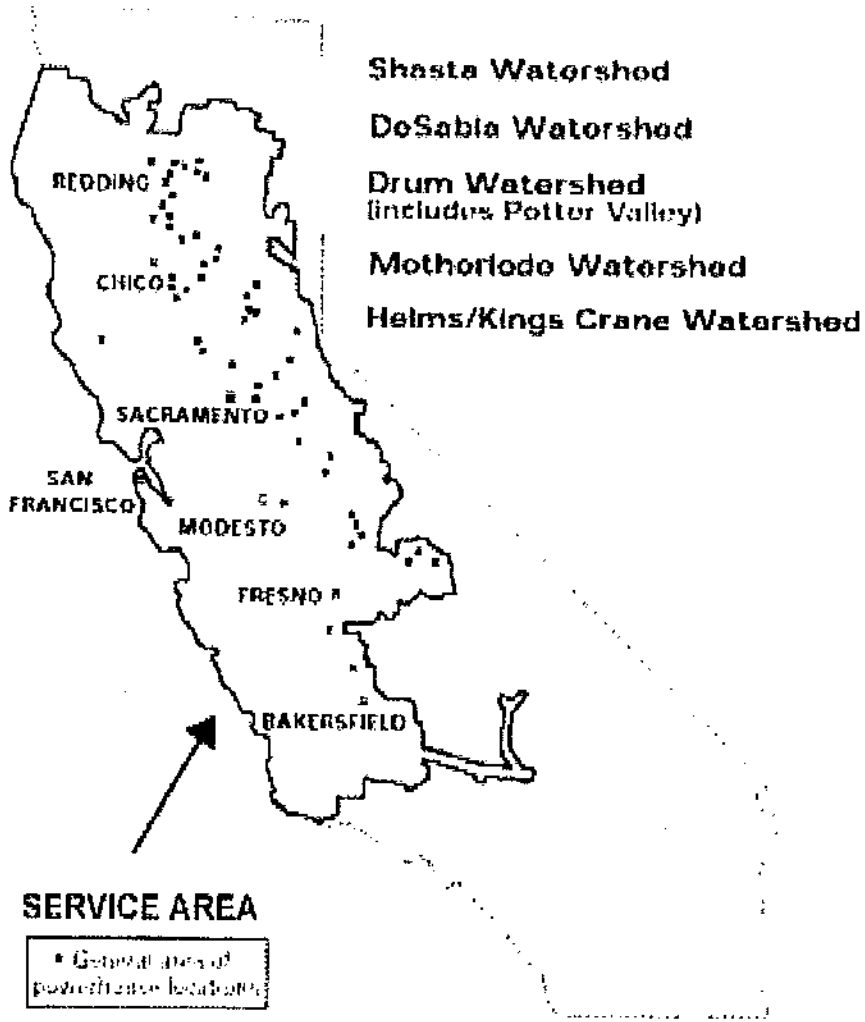
From CAISO 2002 Summer Assessment

PG&E Hydro Dispatch Flexibility



Does not include ID/WA generation

The PG&E Hydroelectric System



68 Powerhouses; 110 Generating Units; Total Generation Capacity of 3,896 MW

Approximately 2.3 Million acre-feet of Reservoir Capacity

99 Reservoirs, 174 Dams

184 Miles of Canals; 44 Miles of Flumes; 135 Miles of Tunnels; 19 Miles of Pipe

140,000 Acres of Land

26 FERC Licenses; 3 Unlicensed Projects

Hydroelectric System Extends 500 Miles from Burney to Bakersfield

2003 EPA Global Climate Change Award

PG&E has the lowest rate of carbon emissions per kilowatt hour of any large utility in the United States due to its portfolio of hydroelectric, nuclear, and natural gas fired power plants.

"We recognize the role of hydropower as one of the renewable and clean energy sources, and that its potential should be realized in an environmentally sustainable and socially equitable manner."

- Ministerial Declaration, First International Summit on Sustainable Use of Water for Energy. Japan, 2003.