Fifth Power Plan Outline

Revised November 2003

1. Executive Summary and Action Plan

Summary of the plans findings and recommendations including an Action Plan outlining specific recommendations for key actors in the region (e.g., BPA, regulators, siting agencies, utilities, building code agencies, …

2. Introduction – the theme of the plan and why

The Council's first plan, released in 1983, was developed in the aftermath of the region's attempt to construct several large thermal power plants and the subsequent 66-percent real increase in retail rates in the region. In response to this experience, the Council's first plan brought new innovations to electricity system planning such as integrated treatment of conservation as a resource and methods for assessing and managing the risks associated with capital-intensive, long lead-time generation.

The Fifth Power Plan comes on the heels of the 2000-2001 electricity crisis in the West. This crisis was triggered by the second worst water year on record and a failed attempt at industry restructuring in California. However, it had its roots in resource planning and implementation throughout the West that failed to adequately account for the characteristics and relative immaturity of the industry structure that now characterizes much of the West and for the risks inherent in that industry.

The challenge for the Fifth Power Plan two-fold: First, to develop more robust planning methods for assessing and managing the risks inherent in this industry structure and to use these methods to develop resource strategies that will meet the region's electricity needs at lowest cost with acceptable risk; and second, to provide insights into the resolution of some of the key issues affecting the industry in the Northwest. These issues include:

- Incentives (regulatory or financial) for assuring resource adequacy;
- How we plan and pay for transmission system expansion and how we ensure transmission is operated reliably, efficiently and equitably;
- Enabling demand side participation;
- Sustaining investment in conservation….
- Meeting requirements for power and fish recovery effectively and efficiently;
- Finally – the role of the Bonneville Power Administration in power supply.
  Experience of last few years suggests that Bonneville is, by nature of the requirements and constraints under which it operates, ill suited to managing the financial and political risks of a large role in resource development. An alternative is required that limits Bonneville's risk exposure in resource development while still ensuring that cost-effective conservation and renewable energy and fish recovery goals continue to be met.

3. Where does the Region stand?

- Physically
  - Current and projected loads in the region
    - Spotlight the DSIs and their role
  - Current regional resources
  - The resulting load resource balance
  - Fuel availability and prices – current and projected
  - Benchmark electricity market prices – current and projected

- Relationship to the rest of the West
- Institutionally/politically – short description of our assumptions regarding industry structure and policy over the next several years.

4. Resource alternatives and characteristics (Supply, Cost, deployment flexibility, risk)
   - Demand side
     - Conservation
     - DSM/Load management
       - Short term load reduction or shifting
       - Long term load reduction
   - Supply side
     - CCCT
     - SCCT
     - Coal-fired generation
     - Cogeneration
     - Wind
     - Other
     - Extra-regional resources – reliance on imports

5. A brief discussion of risk in the power system
   - Types of risk
     - Capital risk – inability to recover capital costs due to low demand/low competing power prices – historical perspective the early '80s, now
     - Fuel risk – exposure to high fuel costs
     - Market risk – exposure to high electricity market prices – 2000-2001
     - Hydro risk – risk of poor hydro production
     - Policy risk – e.g. risk of measures to control carbon
     - Technology risk – risk that some transforming technology my significantly alter the picture in some way
   - Inter-relationships – important correlations among key risk variables
   - Assessing portfolio performance –
     - The metrics and what they mean
       - Expected cost
       - Risk measures
       - Reliability
       - Environmental
     - Brief description of the analytical approach
   - Who bears the risk – regional consumers, investors, both

6. Portfolio Analysis -- development and evaluation of alternative resource portfolios and issues
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   - Resource adequacy – how much is adequate – cost-risk trade-off
   - Conservation implementation strategies
   - DSM

- Role of wind and other non-carbon resources, sensitivity to carbon control scenarios (e.g. carbon taxes, cap and trade)

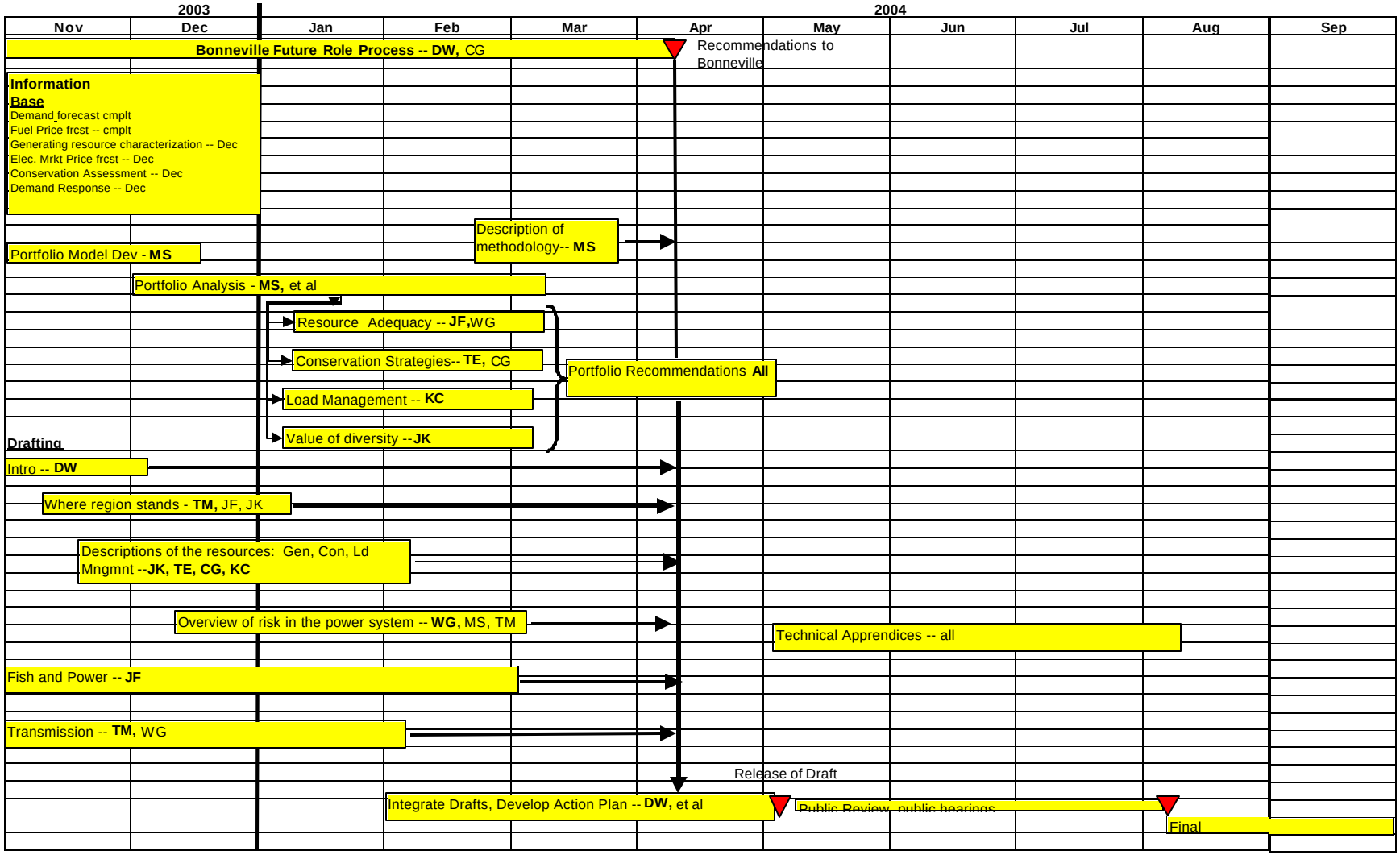
8. Other Issues
   - Fish and power – Meeting requirements for power and fish recovery effectively and efficiently;
   - Transmission – what changes are necessary to ensure a reliable and efficient transmission system

10. The Future Role of Bonneville: recommendations for Bonneville's future role in power supply and alternative scenarios for Bonneville resource needs and recommended portfolios

11. Conclusions and Recommendations

Technical Appendices – where all the good stuff is

Fifth Plan -- Revised Schedule 11/15/03



Note: Initials in bold indicate lead staff