Northwest Power and Conservation Council

June 21, 2007

MEMORANDUM

TO: Council Members

FROM: John Fazio, Senior System Analyst

SUBJECT: Draft 3-Year and 5-Year Resource Adequacy Assessments

In 2006, the Council adopted a non-binding resource adequacy standard for the Northwest region. The standard was developed by the Resource Adequacy Forum, which included representatives from the states, government agencies and electric utilities. The standard is designed to assess the power supply's capability of providing service when needed both on an annual basis and on an hour-to-hour basis. Thus, the standard has both and energy target (long-term service) and a capacity target (hourly service).

The energy standard requires that the annual generating capability of the system at least equal the annual average load. On the resource side of this equation, nearly 4,000 average megawatts of non-firm resources (out-of-region and in-region spot markets and non-firm hydro) are included. The current estimated load/resource balance is 4,260 MWa for 2010 and 4,050 MWa for 2012.

The capacity standard requires that the generating capability of the system over the peak load hours has sufficient surplus (reserve margin) to cover operating reserves, increases in load due to high or low temperatures and other contingencies. The winter reserve margin target is 25 percent and the summer target is 19 percent. Current estimates for winter reserve margins are 48 percent and 46 percent for 2010 and 2012 respectively. Summer estimates are 32 percent and 30 percent. All of these values are above the draft targets.

Since the regional electricity market is surplus, we might conclude that no resource action is required. However, the standard was not designed to address the efficiency or the economy of the power supply but only its adequacy. In addition, most of the surplus is made up of uncontracted Independent Power Producer generation, which means that many utilities are short and will have to acquire resources. So, while the region may not be in danger of a significant curtailment, it must continue to take resource actions to ensure an efficient and economic supply.

Both the data and the methodology used to derive the targets are being reviewed by the Resource Adequacy Forum and results will be presented to the Council early next year.

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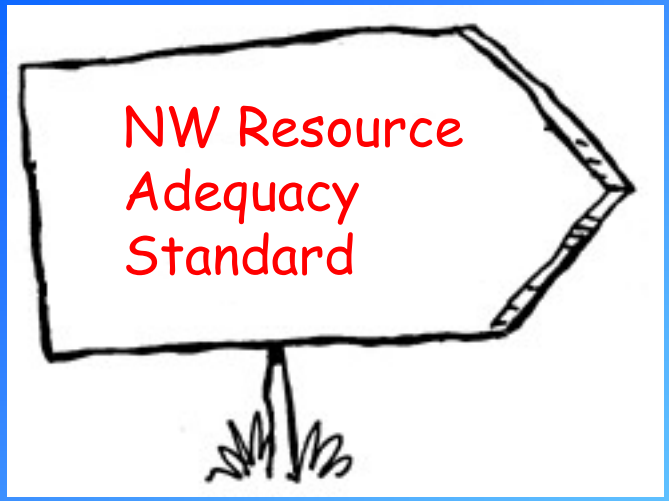
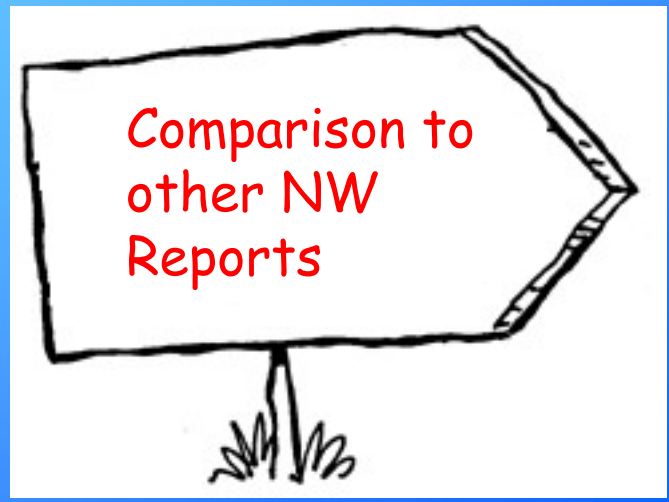
Pacific Northwest Resource Adequacy Assessment for 2010 and 2012

Council Meeting
Portland, Oregon
July 12, 2007

Topics


NW Resource
Adequacy
Standard


2010 & 2012
Assessment


Comparison to
other NW
Reports

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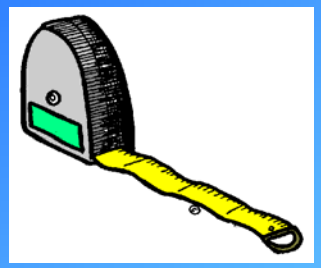
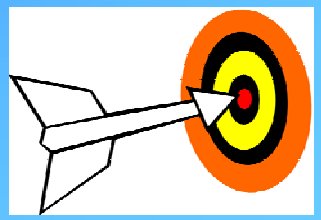
Components of a Standard



Metric – the assessment of available resources compared to expected load



Target – the appropriate amount of resources relative to expected load

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Metrics

- **Annual Energy** – Average generating capability minus average annual load (in average megawatts)

- **Peaking Capacity** – Surplus peak-duration capability over expected peak load (in percent)

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Targets

- **Annual Energy**

  Annual generating capability =
  average annual load

- **Peaking Capacity**

  Peak-duration capability =
  expected peak load + reserve margin

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Assumptions

- **Generating Capability includes:**
  - Out-of-region market
  - In-region market
  - Non-firm hydro and hydro flex

- **Reserve Margin covers:**
  - Operating reserves
  - Capability to cover extreme temperatures
  - Other contingencies

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Targets

- **Annual Energy**

  Target = 0

- **Capacity Reserve Margin**

  Winter Target = 25 percent

  Summer Target = 19 percent

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Resource Adequacy Assessment

Energy	2010	2012	Target
Load/Res Bal	4260	4046	0

Capacity	2010	2012	Target
Winter	48%	46%	25%
Summer	32%	30%	19%

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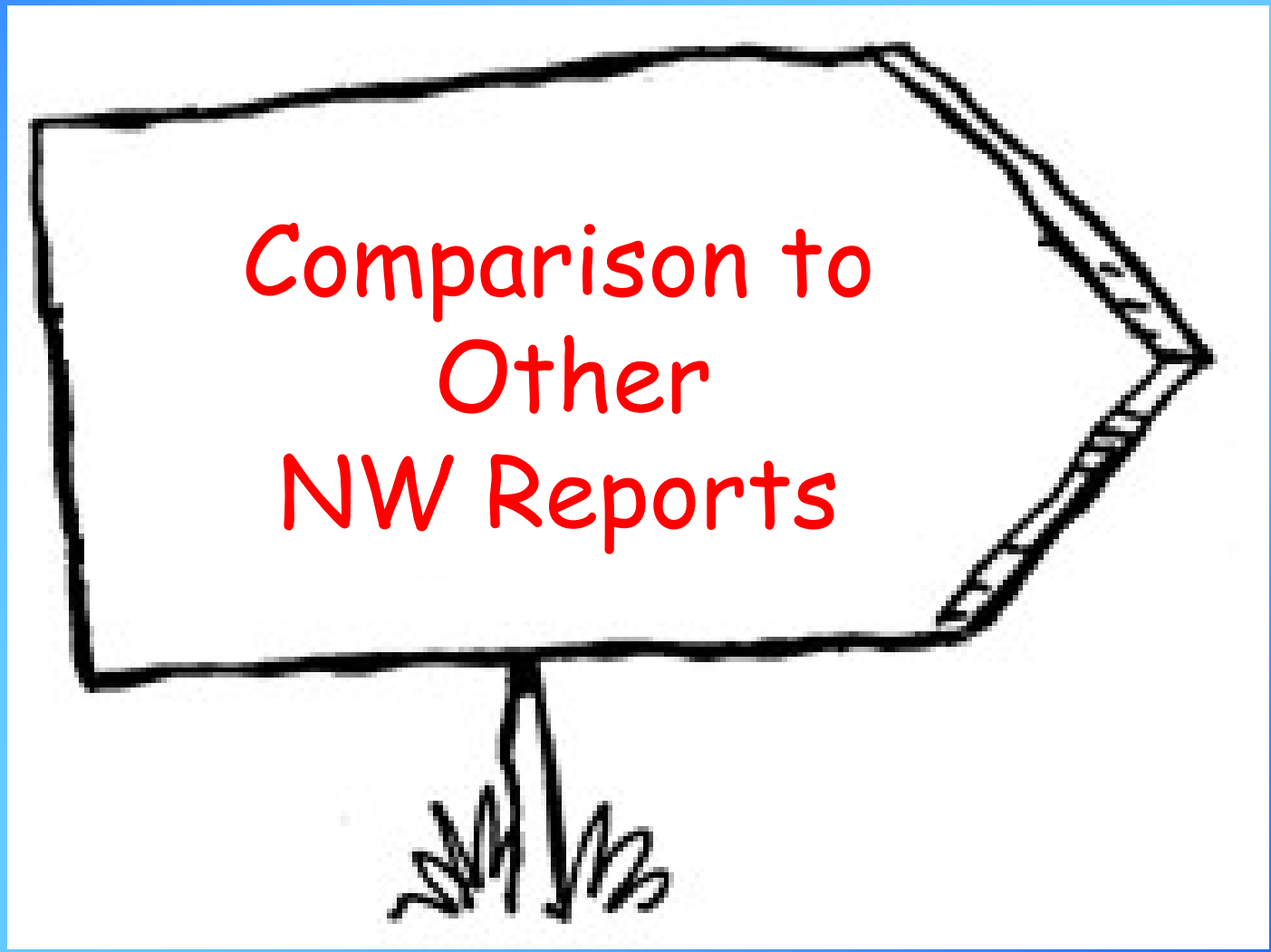

Load/Resource Balance (2010)

	RA Forum	PNUCC	BPA
Load	22,130	23,007	22,553
Resources	26,390	20,684	24,807
L/R Bal	4,260	(2,323)	2,254
LOLP adjust	1,500	0	0
L/R Bal	2,760	(2,323)	2,254
IPP	2,528	0	3,366
L/R Bal	232	(2,323)	(1,112)

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Forum vs. PNUCC

	Forum	PNUCC	Diff	Reason
Annual Load	22,130	23,007	(877)	Mostly from DSI
Firm Resources	22,362	20,684	1,678	Mostly from CT

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Conclusions

1. NW power supply is adequate
2. Almost all of the surplus is non-firm
3. Adequacy standard does not address price volatility
4. Regional standard does not address individual utility status
5. Resources are not needed for adequacy but may be needed for price stability or for individual utility needs

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