Session 3

Potential Study

1

Presentation outline

- Potential study for peaking power sources
- Environmental considerations

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Potential study for peaking power sources

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Points of presentation

1. Peaking power
2. Functions of PSPP
3. Flow of PSPP project design

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1. Peaking power

- Sources
  - Gas turbine, combined cycle
  - Diesel
  - Conventional hydro
  - International electricity exchange
  - PSPP
- Measures
  - Renovation for operation change
  - Installation of sources

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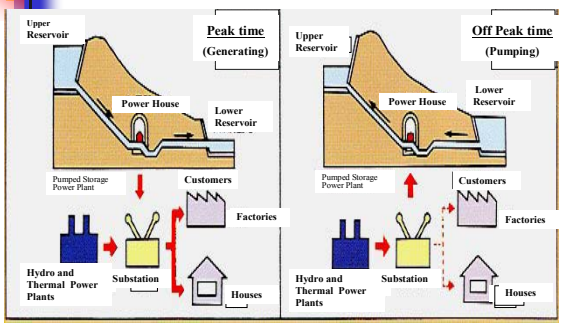
What is PSPP?



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2. Functions of PSPP

Functions	Advantages
Electricity storage	Improving efficiency of power system No seasonal change of supply capacity
Supply of ancillary service	Stabilizing power system

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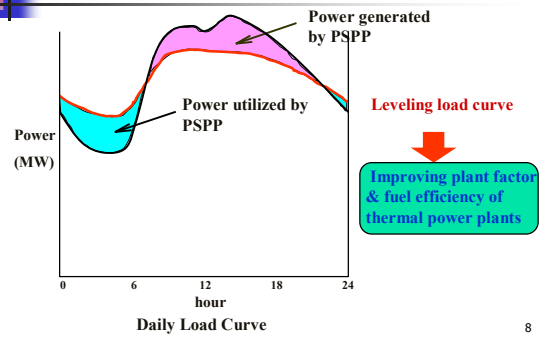
Improving efficiency of power system



Leveling load curve

Improving plant factor & fuel efficiency of thermal power plants

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2. Functions of PSPP

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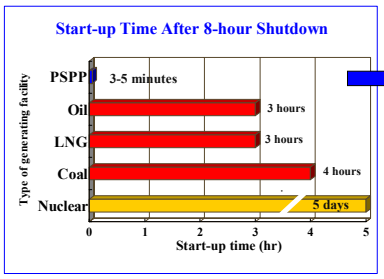
Stabilizing power system



Excellent adjustment capability

Quick response to demand fluctuation

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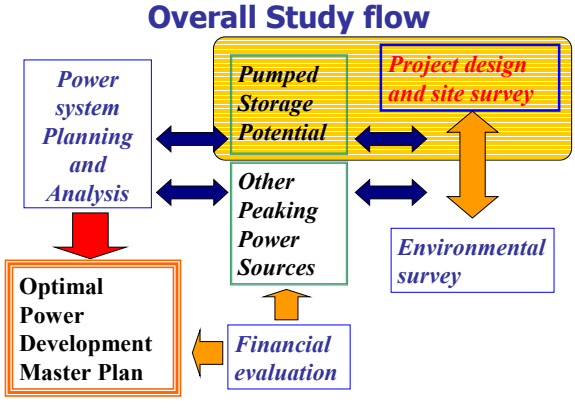
Overall Study flow



3. Flow of PSPP project design

- Criteria setting
- Site identification (1) — Based on maps [Jan/03] → Selecting 10 sites
- Site identification (2) — Site survey (1) → 5 sites [Feb-Mar/03]
- Site prioritization — Site survey (2) → 3 sites [Jun/03]
- **Preliminary design and cost estimation for the high priority projects [~Feb/04]**

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Criteria setting (1)

For technical

- Peak duration time 7hrs
- Installed capacity 1000MW
- Depth of reservoir < 30m
- Design head < 720m
- Catchment Area > 30km^2

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Criteria setting (2)

- Dam crest length < 500m
- Dam height(fill type) < 180m
- Length of water way < 10km
- Length/Head (L/H) < 10
- Overburden of Power House <500m

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Criteria setting (3)

Natural Environment

- Beyond the confines of Protected Area
- Avoid the critical habitats

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Criteria setting (4)

Social Environment

- Avoid mining concession
- Avoid submerging historical and culture heritage
- submerged houses < 20

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