STEP Coordination and Study Processes

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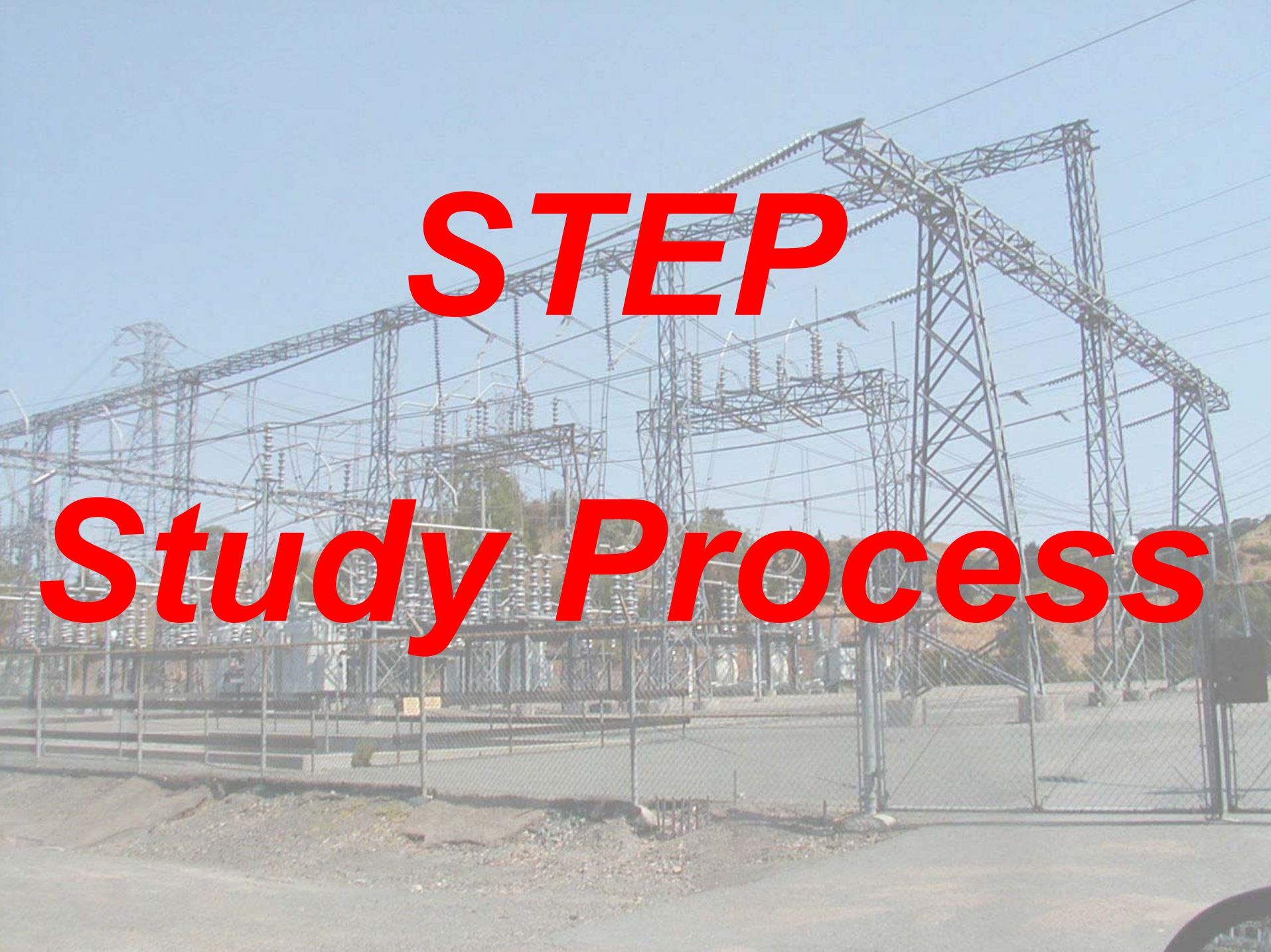
Two Parallel Processes

- Coordination Process
  - Provides project sponsors with a forum to coordinate the development of their projects
  - STEP provides technical input via STEP Technical Group
- Study Process
  - Actual studies conducted in the STEP forum


STEP
Study Process

Overall Approach

1) Develop Transmission Plan – Identify projects necessary to integrate generation currently under construction.
2) Develop Implementation Plan – Identify logical sequence of transmission projects to accomplish transmission plan.
3) Project Implementation – Implement projects determined to be economic.

New Generation Assumptions

6600 MW in Western Arizona

- Red Hawk - 1000 MW in service
- Arlington Valley - 600 MW in-service
- Mesquite - 1250 MW in 2003
- Harquahala - 1170 MW in 2003
- Panda power - 2080 MW in 2003
- West Phoenix 5 – 500 MW in 2003

3140 MW in Southern Nevada

- Las Vegas Cogen II (Black Hills) – 230 MW in 2003
- Apex (Mirant) – 550 MW in 2003
- Bighorn – 570 MW in 2003
- Silverhawk (Gen West) - 590 MW in 2004
- Moapa (Duke) – 1200 MW (Currently on-hold but 70 % complete)

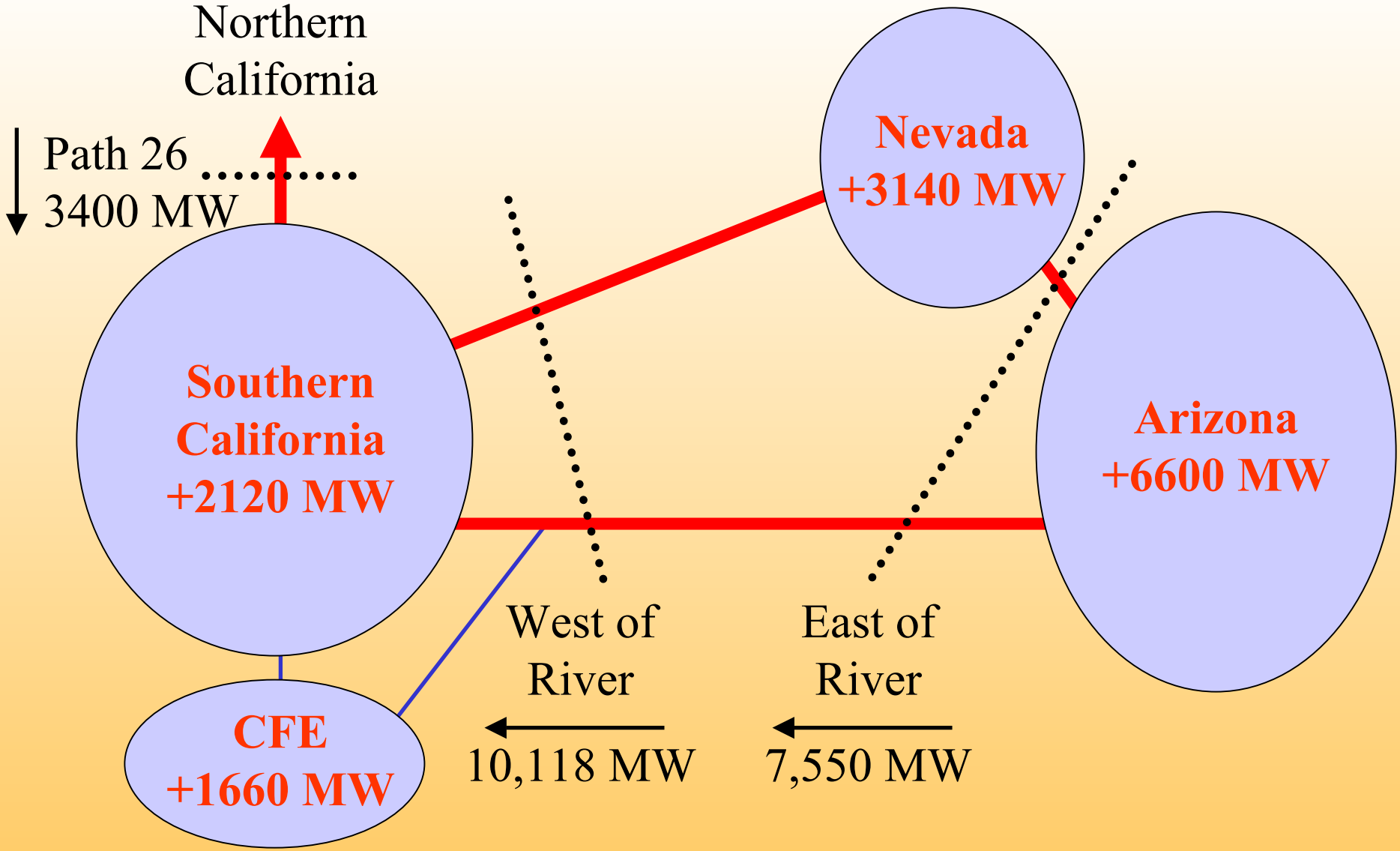
1660 MW in Mexico

- Ciclo Combinado Mexicali (Intergen)– 750 MW in 2003
- Central La Rosita (Intergen) – 310 MW in 2003
- Termoelectrica de Mexicali (Sempra) - 600 MW in 2003

2120 MW in Southern California

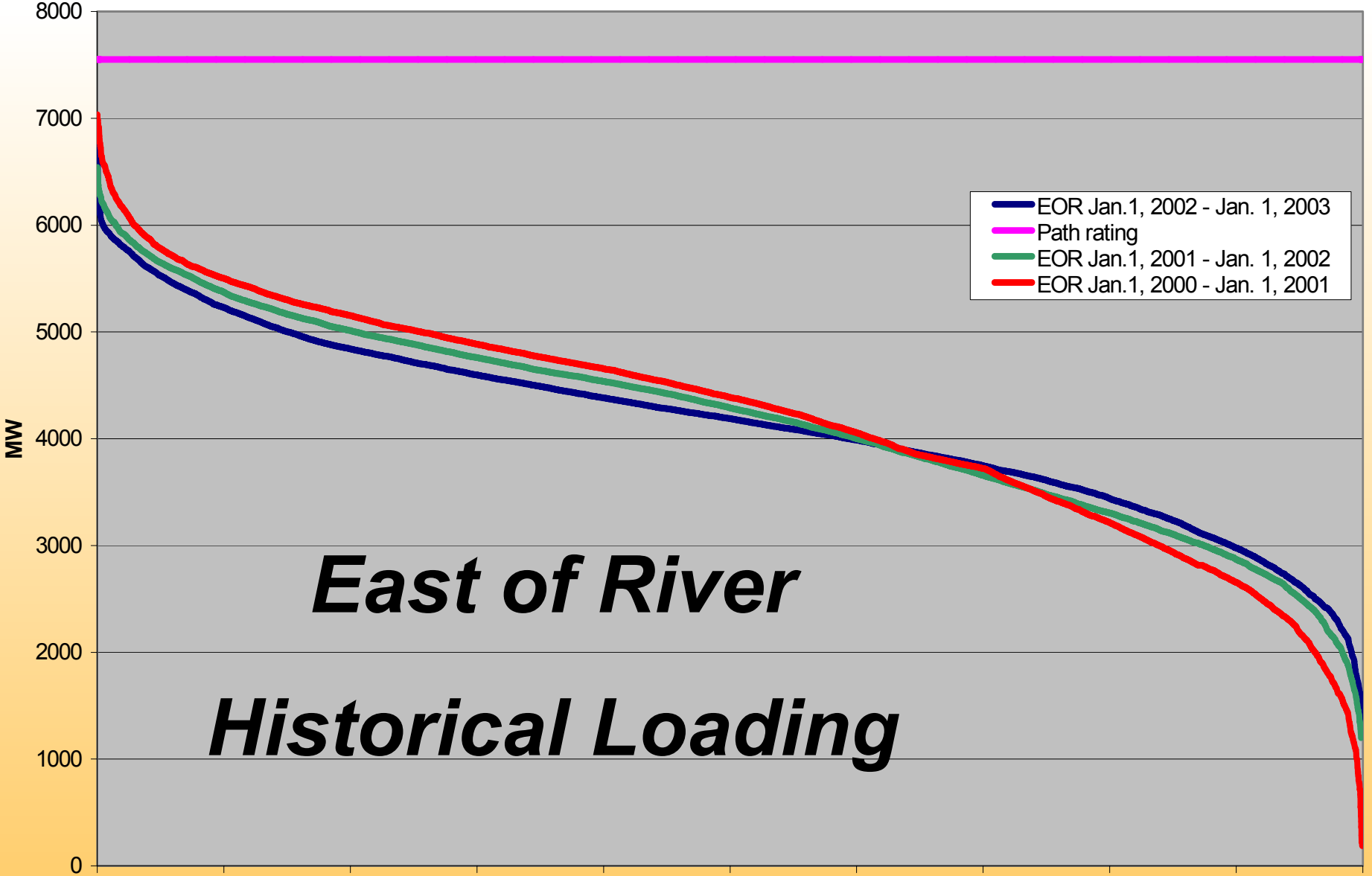
- Blythe #1 – 520 MW
- Pastoria Phase 1 – 750 MW
- High Desert – 850 MW

New Generation – 13,520 MW



Develop Transmission Plan Using Power Flow Studies

- Develop Realistic "Maximum Flow" power flow case
  - Replace inefficient generation with new efficient generation.
  - Assume Mohave out of service.
- Develop transmission plans that will accommodate the resulting transfers
  - "One world" perspective. First figure out the best overall plan.
  - Not for project justification. Production cost studies will be used for project justification.


8000
7000
6000
5000
4000
3000
2000
1000
0
MW
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
EOR Jan.1, 2002 - Jan. 1, 2003
Path rating
EOR Jan.1, 2001 - Jan. 1, 2002
EOR Jan.1, 2000 - Jan. 1, 2001
East of River
Historical Loading

Study Approach

1) Assess system normal performance
2) Assess single contingency performance
3) Study transient stability, post-transient, short circuit, subsynchronous resonance, multiple contingencies, etc.
4) Develop cost estimates
5) Use production cost studies to assess project economics
6) Pursue the development of economic transmission alternatives

Study Schedule

1) **May –** Complete power flow base case and identify potential projects.
2) **June –** Complete initial power flow analysis.
3) **August -** Complete initial stability and voltage support analysis.
4) **September –** Complete initial production cost analysis. Select preferred plan.
5) **November –** Complete implementation plan.

Comments

Initial Study Results

CALIFORNIA ISO

Simplified System