

Tim's list strategies

Defense

1. Export
2. Non-firm Energy Sales
3. Get Short X
4. Ricochet
5. Load mvt
6. FTR Optimization
7. D.A. v. Export
8. Death Star

Offers.

Path 15
withholding T.A.

1. Export 400MW
P.V. \$125 We're exporting
SP15 115 wheel \$6

① Death Star - \rightarrow we ride in highway lane not owned by ISO
owned by Muni. ^{Import} ^{Export}
(trans.) E.g. Mead \rightarrow Malin
- Schedule wheel thru Calif.
- Get paid x flow
- Ricochet in NW
- Buy trans COB \rightarrow Mead \downarrow
- Serves import
 \rightarrow makes

tariff rate buy \rightarrow sell at congestion charge
Move from ISO to muni. Instruction to ISO
if congestion exceeds costs flow sched.

Good for Mkt \rightarrow reduces congestion charge

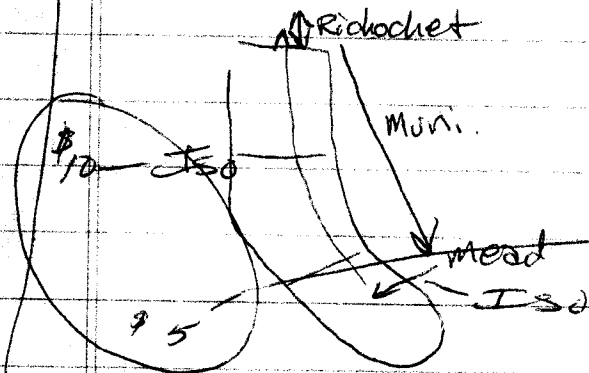
We used trans. that no one else was using (LADWP.)
- primarily.

Another version of Deaths.

[Sch. firm import
" non-firm export]

gets cut in Phase 2

→ Would have to get power
so don't do during Stage 2



collect congestion charges.

→ To avoid ancillary service risk.

If it doesn't get cut no power flows

~~It~~ Or bill sched. → (sometimes ^{mes} paying more than cap.) or sometimes agreed to cancel trans.

Violation firm import - 1 time reduced to lower import → this was on a light day

so Liquid vs ex post price → tariff response - Hour Ahead play

Do daily

Coral
PowerEx] also do

Not bringing prices up

Bringing congestion up

No hour-ahead commodity Mkt.

Higher utilization of grid & made, trans available by paying for muni. trans.

We allow more power to move from N → S happening in ISO hr. ahead trans. Mkt. \$5 m.

Schemes = \$10 m total

ISO not supposed to use non-firm.

Don't do adjustment bid like bilat.

It's independent. Depends on

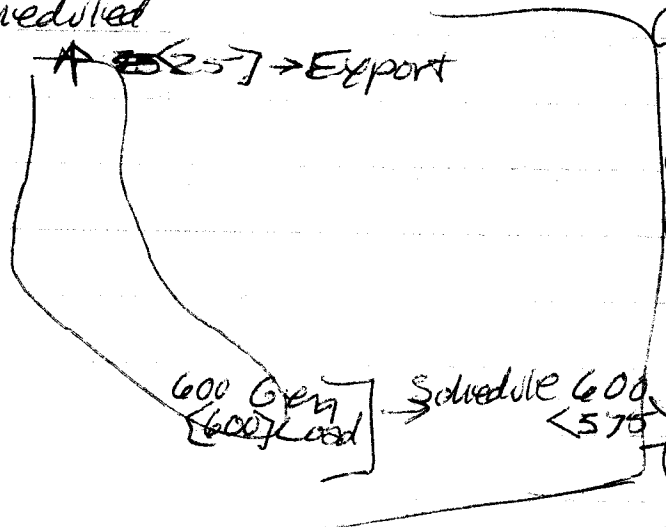
- flows

- congestion

② Non-firm Export.

scheduled

↑ [25] → Export



Revenue

- ① Get paid ^{Cal} counterflow & congestion payment & counters w/ COB
- ② No trans. or anc. service
- ③ But pay Export charge (Grid Admin, Wheelout spin (% share) non spin (% share))

→ Don't pay if non-firm

Sched. 3 hrs ahead, Mkt. runs 2 hrs ahead - can est. → 1 min before

in tariff so shouldn't pay congestion charge on non-firm \$3 m.

Local & PowerEx } Do it.

ISO needs to Incr ^{South} & Decr ^{North} in real time
They have to cut imports → so creates constraints

We liquidate length vs NP15 } speculate on
We serve load vs SP15 } zonal price difference.
→ We have to commit 2 hrs ahead -
find out how much we made after the fact
we stopped doing this → when they published their notice

End result price higher in one zone than another.

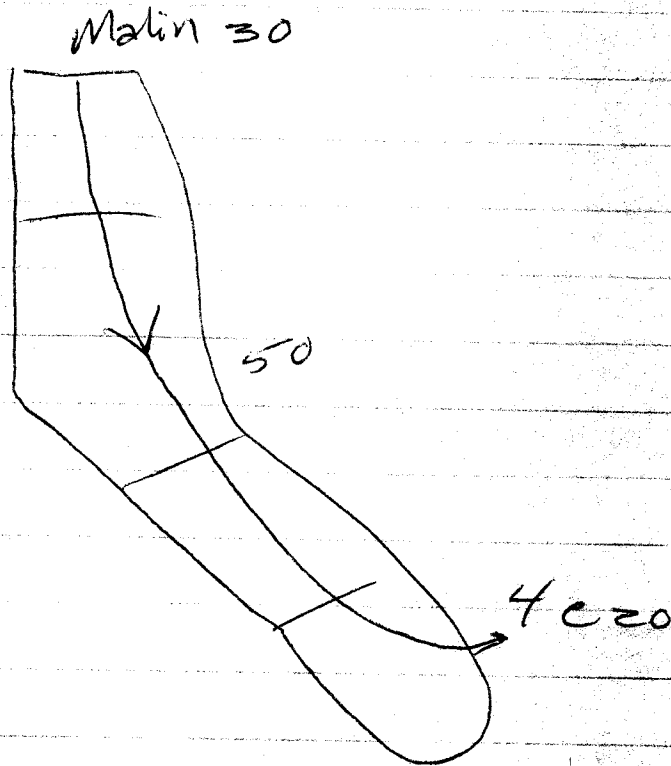
For every hr we did this we saved all the trans. buyers \$; if NP & SP prices didn't separate. → very common.
→ Could argue not societal benefit.
Sometimes sched. cut -

Death star

Sometimes we sched non-firm & didn't cut.
to save on anc services; e.g. mbt. in NW strong.
→ makes our own strong.

Paid us for service we didn't provide
they would have inc'd & not assumed they
didn't have to

③ Wheel out



Congestion \$100. } counter flow
Get paid \$100. }

Buy from BPA to Seattle

a. Don't show up

if NW → \$1000 or can't find

250 Congestion

Commit 3 hrs ahead

ISO → you're done 2 hrs ahead

"Can't find → 1/2 hr. ahead.

→ No effect on grid price

Get pd. congestion.

ISO
Brings ties down to zero & people
stupidly sched. on. or
if price taker,
or ISO's software is screwed up.
Whenever you see line out \rightarrow schedule
counter flow ^{know pull} get pd congestion

- Loser person who tried to submit sched.
They pay us smaller # than they would have
pd ISO.

Summary we're using to take advantage of NW/SW
spread

Calif can't choose when they want us to do this.

No penalties if you don't show up.

The ISO's problem \rightarrow they don't control whole Mkt

Don't have to pay ISO ^{if we} \rightarrow ^{we} assume we pay something

\$12 m total real time cost

④ ~~Buy~~ Boy - price taker
 - But get to secure trans. ahead of time

Control Area (PX) has tremendous flexibility
 Gen have to sell @ a loss

PX Analysis of price activity
 Ex Post \rightarrow higher than day ahead

We buy in day ahead & sell at Ex post

EES does the same. \rightarrow Lmt'd to ESRs need load

EES: (we schedule)

Info Avail. from ISO

NP15 Gen ~~load~~ 500
 Load < 500

SP15 Gen 600 (purch/import)
 Load < 600

EES gives to us but before we do

Gen 1000
 Load < 1000

We do this

500 500
 EES ENA

ISO doesn't see

⑤ EPM1

① Buy from PX in DA. ② take existing purchases & don't sched.
 ③ Oversch. Load

\rightarrow ④ Price taker sale to ISO Ex Post \rightarrow offered at zero \rightarrow no other choice

Long \rightarrow 1500 in N Cal. \rightarrow rather than sell in DA, divert to

you think it'll be higher - but not always

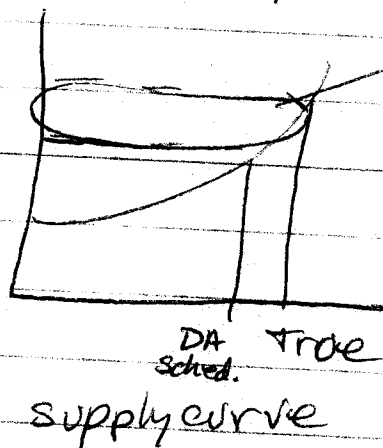
\rightarrow Rare we actually bought from PX

In response to undersched & failure to hedge by IOUs

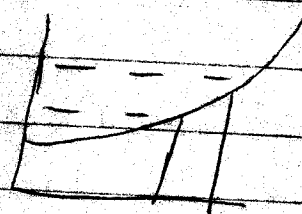
\$30 m. → PG & E's paying - they're long & we're short.

Power Ex ⇒ doesn't have load.

submit sup. energy bids at tie pt. ⇒ actually setting price



Savings → CTC recovery
price discrim due to
monopsony



In state sellers to PG & E shareholder wealth transfer.

Bringing

we

↑ Inc. price in DA Mkt.

→ Bought a bundle forward ←

We ~~sell~~ who

Some hrs. every day
For a yr. \Rightarrow
We lose \$

So NP 15 mkt power

Fat Boy_n's Real time not day ahead

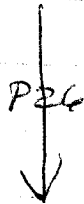
Wouldnt have had to
We sched. ahead \Rightarrow so we reduced replacement
reserve.

@ Shift Load - dovetailed w/ our FTR

subj to scrutiny

* Impact on price of whole sys. is the problem.

1,000 FTR
out of 1,500 auctioned
3,300 path



Mkt surveillance said
we'll be watching

NP 15 Gen 500
Load <500>

SP 15 Gen 600
Load <600>

Two Cong iterations in DA

prelim @ 10:00 \rightarrow

final 12:00

results 11:38
" 1:00

sched.
prelim prices
for next day
Run every hour

fund times when we can influence trans. price
because ~~trans~~ ^{transm} translates into power price in
final mkt.

DA Mkt.

Read PX Price calculator Rept.

To
Max
PTR
Rev

① → Inc. price ↓ quantity

NP Gen = \$500
Load < 450

Out of balance
implicitly req. trans.
so

SP G - 600
L - < 650

↑ Price ↓ Q
100 1000
↑ 200 ↓ 950

Trying to figure price curve on constrained ~~per~~
submit ~~in~~ multiple bids to find.

Resubmit in final to max. revs.

- Doing since June -

Sometimes doing this the other ways

PTR \$10 m spent
Made 40 m