Tim's list strategies

Defense	Offers.
1. Export	Path 15
2. Non-firm Energy Sales	Withholding P.A.
3. Get Short x	
4. Richochet	
5. load mvmt	
6. FTR Optimization	
7. D.A v. Ex Post	
8. Death Star	

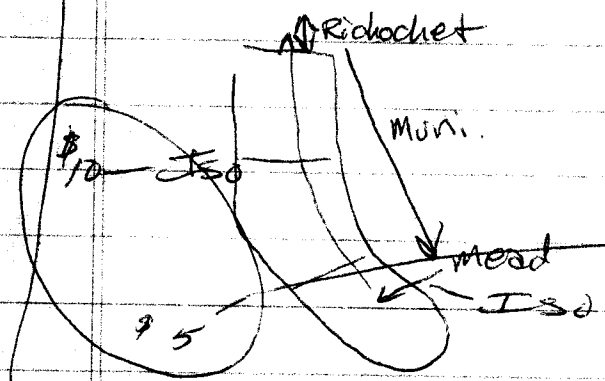
1. Export 400MW
P.V. $125 We're exporting
SP15 115 wheel $6

① Death Star – → We ride in highway lane not owned by ISO
owned by Muni.
(trans.) Import E.g. Export
– Schedule Wheel thru Calif. Mead → Malin
~~As~~ Get paid x flow
Richochet in NW
Buy trans COB → Mead tr
↳ Serves import
→ makes
tariff rate buy → sell at congestion charge
Move from ISO to muni. Instuction to ISO
~~If~~ congestion exceeds costs flow sched.
Good for Mkt → reduces congestion charge
We used trans. that no one else was using (LADWP.)
– primarily.

Another version of Death S.

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
Or fill sched. → (sometimes 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.

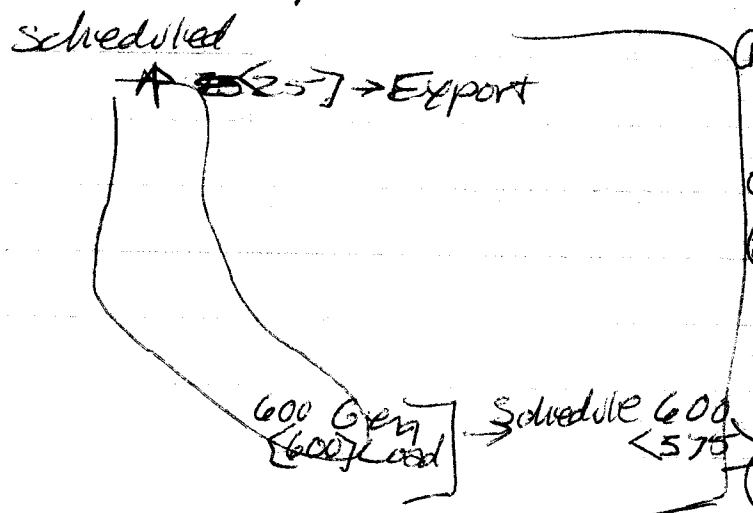
We allow more power to move from N → S happening in ISO hr. ahead trans. Mkt. $5 m

Schemes = $10 m total

ISO not supposed to use non-firm.

Don't do adjustmt bid like bilat.
It's independent. Depends on
- flows
- congestion

(2) Non-firm Export.



Revenue
(1) Get paid (a) counter flows & 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 cut → [illegible]

in tariff so should not pay congestion
charge on non-firm
$3 m.
Coral & PowerEx] Don't.

ISO needs to Inc (South) & Dec (North) in real time
they have to cut imports → so creates constraints

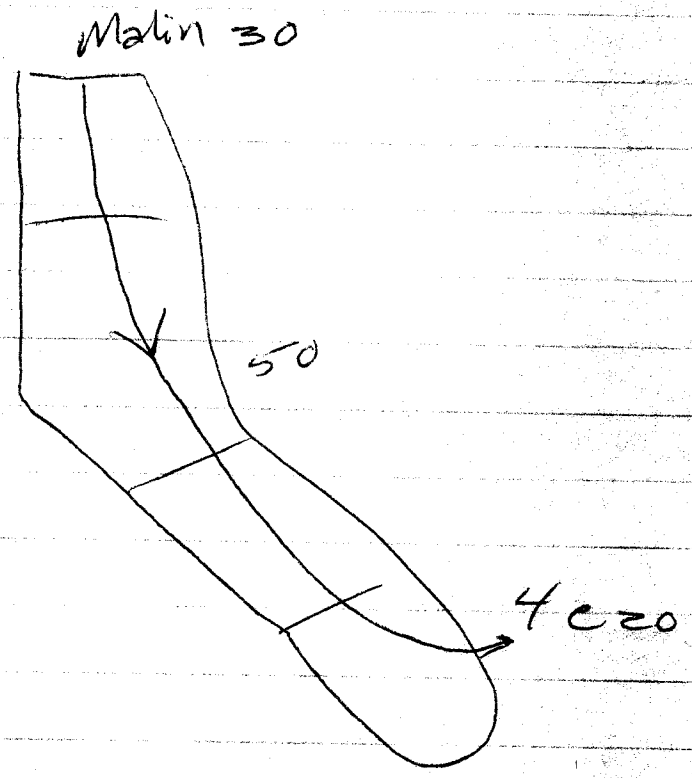
We liquidate length vs NP15] speculate on
We serve load vs SP15] zonal price difference.
→ We have to commit 2 hrs ahead –
find out how much we made after the fact
We stopped doing this → when they published
their notice

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 net societal benefit.
Sometimes sched. cut –

Death Star
Sometimes we sold non-firm & didn't cut.
to save on anc. services; e.g. if mkt. in NW strong.
→ makes our case 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
If SO → 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 → schedule
counter flow → know you'll 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 → they don't control whole Mkt.

Don't have to pay ISO → if cut we assume we pay something

$12 m total real time desk

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

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

PX Analysis of price activity
Ex Poste → higher than day ahead

We buy in day ahead & sell at Ex post

EES does the same. → Lmtd to ESPs
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

we do this

Gen 1000
Load <1000>

500 EES 500 ENA

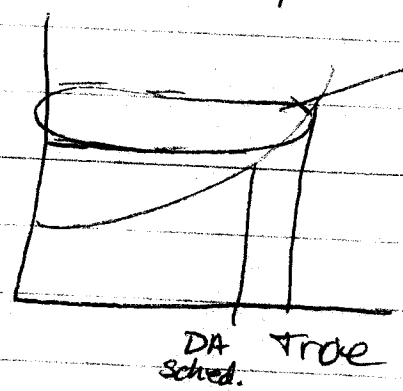
ISO doesn't see

ⓐ EPMI
① Buy from PX in DA ⓑ take existing purchases & don't sched.
② Over sch. Load
→ ③ Price-taker sale to ISO Ex Post →
Offered at zero → no other choice → You think it'll be higher - but not always
Long 1500 in N Cal. → rather than sell in DA, divert to
→ Rare we actually bought from PX

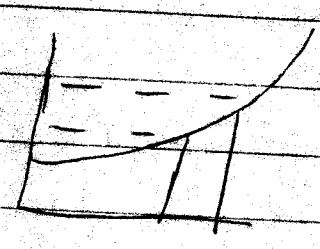
In response to undersched & failure to hedge by IOUs

$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



supply curve

In state sellers to PG&E shareholder wealth transfer.

Bringing

We
Inc. price in DA Mkt.

→ Bought a bunch forward ←

~~We follow who~~

Some hrs. every day
For a yr. →
We lose $

So NP 15 mkt power

Fat Boy is Real time not day ahead

~~Wouldn't have had to~~
We sched. ahead ⇒ so we reduced replacemt. reserve.

@ Shift Load – dovetailed w/ our FTR
subj't to scrutiny
* Impact on price of whole sys. is the problem.

1,000 FTR
out of 1,500 auctioned
2,300 path

P26

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	→	results	11:30
Final	12:00		"	1:00

sched. prelim prices for next day

Run every hour

Find times when we can influence trans. price because transm translates into power price in final mkt.

DA Mkt.
Read PX Price calculator Rept.

To Max FTR 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 ~~path~~ submit ~~in~~ multiple bids to find.

Resubmit in final to max. revs.
– Doing since June –

Sometimes doing this the other way:

FTR $10 m spent
Made 40 m