DRAFT
DNCT/EWA Modeling Team
Meeting Notes
2/16/99
9:30-12:30

Attendees: Pete Chadwick, Bruce Herbold, Jim Snow, Peter Louie(phone), Paul Fujitani, Art Hinojosa, Dave Briggs(phone), Dave Fullerton, BJ Miller, Tom Boardman, Tom Cannon, Ron Ott.

Agenda:
i. Overall EWA Process
ii. E/I Ratio Scenario
iii. Sharing in New Facilities/Infrastructure Scenario
iv. Purchasing Efficiency

A. Highlights
I. Discussed overall process and getting EWA water from relaxing E/I, new facilities (e.g., JPOD), and purchasing efficiency.
II. Relaxing E/I ratio could lead to contract water for EWA.

B. Actions: (see bold-underlined items below)

C. EWA Overall approach

B.J. described the overall EWA approach from the outline provided.

Size of Account:
1. Flexing of requirements
2. Purchase water
3. Surface storage
4. Groundwater storage
5. Purchased efficiency

New facilities/infrastructure:

6. Interchangeable use of Banks and Tracy
7. Increased capacity at Banks

Other features:

- size and makeup of account
- rules for flexibility

- rules for account
- secured amount of exports (water deliveries.)

Summary Table:
BJ proposed a table format for describing various proposals by the above features

Suggested additions to Table:
- Additional Accounting Procedures
- Priority to storage and conveyance
- add column for "style of protection": and two subcolumns "prescriptions and flexible"
- Replace "secured amount of exports" with two column: "relative yield" and "environmental water supply obtained"
- add "rules of conveyance"
- add "cost and repayment"

Comments:
- Good format to put stuff into
- Documentation of ideas and concepts
- Rules for account could be broken out into more subcolumns.
- Table will keep track of proposal elements

D. E/I Change Proposal
- E/I flex is already available in WQCP, but we haven't used it much; has not lived up to potential for protecting against entrainment losses. Take problem occurred for delta smelt anyway. Does dedicate water to outflow.
- Proposal changes distribution of outflow in time (annual and season).
- Proposal involves water contract in exchange for relaxing E/I standards.

    1. Look to when E/I constrains system now.
    2. Because it may affect NOD storage, we have to watch for upstream impacts.
    3. We have to convince people that this is real water for EWA.
    4. Modeling will tell us what contract deliveries will be.

- Relaxing E/I probably won't get water into EWA in critical, AN, or wet years. Need to confirm with modeling. Works best in dry and BN years.
- Contracts for EWA would take away from other contracts.
- Could eliminate E/I from May 15-July 31.
- Other times could relax to a higher background level.
- Modeling will test feasibility to see what water can be generated from relaxing E/I.
- Hydrology will respond quickly to change in E/I, but fish may not.
- Contract approach reduces amount of distrust because rules will be worked out on a pre-agreed formula as for other users.

Activities:

(1). Propose specific rules (not real time) for relaxing E/I (including elimination).
(2). Determine water (exports?) produced by relaxation.
(3). Contract between EWA manager and projects based on hydrological characteristics as defined by models in activities (1) and (2).
(4). Actual amount of water depends on specific hydrology during the year. Model would forecast contract amount but track/account in real time.
(5). Take delivery on August 30th in San Luis into EWA.
(6). Uses of EWA water is unlimited. (Sell, curtail exports, wetlands, ground water recharge)

Policy Issues:

- need to change WQCP and SWRBC rules
- secondary inputs: carryover storage and releases need bounds; other rules apply.
- dry year relaxations could affect water quality.
- some years won't give us water - need other sources of EWA water (e.g., JPOD).

Questions:

A. Priority: new or last in line; or a standard with highest priority.
B. Variance of forecasted contract to real time available water.
C. Who pays for pumping.
D. Affect on Delta water quality.
E. Consequences to NOD storage and releases - need for rules to avoid such effects.
F. Unique features of contracts for EWA water.

Comments/Suggestions/Questions:

- Set new E/I's and get contracts for EWA water or for restrictions to exports.
- Contract is unique feature of proposal. Concept will be a hard sell.
- Schedule EWA water with other contractors.
- How do we apply the water under contract?
- What if E/I is relaxed in November after August low point during the refill period for San Luis? We may want to refill faster by relaxing E/I.
- Gaming will show us what problems we can foresee and how to get a handle on them.
- Having a formula for accounting is good.
- August 31st delivery is OK, but we will be borrowing on that earlier.
- Account will have to take into account San Luis storage level and other factors - build these factors into rules.
- How do we see if contract approach works? From gaming exercise. Lets see if it pans out in gaming before we make a decision.
- Contract approach is worth pursuing.

<u>Action:</u> Bruce with help will look at George's run that eliminated E/I constraints. Also look at Russ's daily model. Scope out the concept.

E/I effects on Water Quality - Dave B:

- Problem could occur on either side of a spring pulse flow. People will be recovering (e.g., CCWD would have been living off of pumping from Los Vacaros). Will want to refill in June or July. Something else will limit pumping. Other related issues will come up. Should be discussed in Ops Group.
- There are times when more pumping will help water quality.
- CCWD would see X2 as a problem in drier years. Pittsburg and Antioch could see rise in EC.
- We should do analysis to see depth of potential problem.
- A June relaxation of E/I could lead to chloride impact.
- Details could go under rules to limit these problems - factor them into gaming exercise.

Action: Dave Briggs will outline things to watch out for by month and year type.

E. New Facilities - Dave F.

As infrastructure increases EWA will get a share of new water developed. How bid? What priority?

Example: JPOD; cut of new water plus commitment for Bureau to deliver water to San Luis.
Example: Expanded Banks - cut of new water and capacity, storage, and conveyance.
Example: Delta Wetland storage - cut for EWA in pumping and return capacity, and in storage.

Sharing if projects use new facilities. If not being used, then EWA could use but with low priority.

Rights in Storage: Low in San Luis, high in acquired (groundwater); input and output priorities.

Questions:

- Which examples are at risk? Delta storage is most difficult. Also suspicious of JPOD. State and federal project deals could screw EWA out of water.

Action: Dave F. Will report on this in next meeting.

F. General Discussion/Questions

1. Q: What is difference between Contract or Bucket-for-Bucket approach? A: E/I will be better with contract depending on tools.
2. C: COA will have to be changed to handle EWA and changes to E/I standards. R: VAMP period, Sep/Oct period min flow requirements, and shared pumping.

Action: Paul will put together issues relating to EWA and the COA.

3. Q: What about power and conveyance costs to pump EWA water to San Luis? A: $16/AF

for conveyance; additional energy costs.

Action: Andy/Jim S. Will put together these cost data.

4. Q: How will we determine sharing formulas? A: We will try out different formulas.

Action: Dave will develop pro/cons for sharing as well as E/I for gallon for gallon versus contract approach. (Also E/I, JPOD, DW, and ISDP)

5. Q: How do we make decisions on these? A: On environmental side we need to look at varying amounts of EWA - depends on baseline. Bigger EWA gets, the less water users get. How much water versus how much fish protection is key to decision process.
6. Q: Should we identify funding differences to help bring focus to what we are doing? A: Policy people have to decide what level of protection is necessary. Depends on view of the world. Depends on baseline and whether it includes AFRP.
7. We can ignore baseline if we can generate enough water for env and water users.
8. Q: Who pays?

G. How can we help Policy with decisions

What can DNCT do to help Policy decide which proposal is better?
Answers to the following questions would help:

1. How much Ag/urban water is exported under different scenarios?
2. How much is water quality affected?
3. Are there other serious non-biological effects?
4. What are biological effects (benefits)?
   - from environmental water
   - from export shifts
   - reduction in salvage losses (total mortality)
   - asset mix benefits by year type
5. What are costs?

Show what kind of fish protection can be generated by EWA.
Check off list of measures we met from list derived from Accord, AFRP, and new fed alternative needs. How well do we meet Spear's requirements?

H. Modeling Subteam - tools to measure success

- Bruce will need modeling support to define ways to get EWA water from E/I relaxations.
- Need model subgroup to start developing gaming tools now so we have them when we need them.
- Gaming tools most likely will concentrate on water supply but need fish person too.
- Who will take charge in getting team together and working.

Action: Ron will take charge of model subteam specifically for gaming EWA. Needs a fish person to support him. This subteam will develop an approach to gaming and present it to DNCT. Dave F. And Bruce will support. Team members - biol group will put together gaming rules. Among other, need to address how do we involve the management team in gaming?

I. Efficiency Purchases

Purchasing EWA water through water use efficiency was discussed by Peter Louie.

Water can be purchased above present BMP's which for MWD are all those things that cost less than $300/AF. About 1000 AF of water is available for each $100 increment above $300. (First increment would generate 1000AF for $400,000.)

Question: couldn't we buy water cheaper than $400/AF from other sources? A: Yes, probably in northern California where such plans are not so well developed or implemented. EWA could accelerate pace of this process, to supply temporary benefits. San Francisco has great potential for low-flush toilet program expansion, which would provide Tuolumne water to EWA.

Action: Greg Young will check with Urban Conservation Agency to determine potential for such program under EWA in northern California. Ron will recruit Greg for this.