

MEMORANDUM

TO: Farrel Hobbs

FROM: Wright Water Engineering

DATE: October 4, 1990

RE: Important Planning Level Concerns Regarding Option "B"

1. Disposition of excess stored water in Great Western Reservoir was not addressed in RMC's work for the cities.
2. If the existing Big Dry Creek segmentation is not changed, the Option B will require DOE to meet segment 4 standards for point and non-point discharges.
3. Will the area and size of land included in the purchase of Great Western Reservoir provide an adequate buffer zone for expansion, security and operations?
4. How is the integrity of dam and reservoir structure, including the spillway condition (SEO report); and what should be done about sloughing of materials that has occurred in the past?
5. The "seepage" question implies that zero discharge will be expected -- no discharge from Great Western Reservoir.
6. How will Rocky Flats handle the issue of groundwater recharge and potential contamination of groundwater?
7. If periodic releases are required from Great Western, where will the water be released and what water quality standards are to be met (short-term and long-term)? What will be the impact on downstream users?
8. There are water rights issues on the use of water to extinction.
9. What about zero discharge studies/recycle studies on-site?
10. Great Western Reservoir bottom sediments reportedly have a high Pu content with other possible contaminants. Under Federal law, the cleanup responsibility is on present owner. This raises three questions.
  - a. Would acquisition of Great Western Reservoir provide for either cleanup by present owner or deduction of cleanup costs from acquisition costs? (What if cleanup costs exceed acquisition costs?)

WRIGHT WATER ENGINEERS, INC.

Memorandum  
October 4, 1990  
Page 2

- b. Is DOE willing to acquire Great Western Reservoir and assume the cleanup responsibility? (Will Great Western require cleanup once acquired by Federal court?)
  - c. Is the EPA apt to designate Great Western Reservoir a superfund site?
11. a. What provisions must be made for capturing groundwater discharges from beneath Great Western Reservoir and what treatment or other disposition of groundwater would be necessary?
- b. Should Great Western Reservoir, if acquired, be lined to forestall further possible groundwater contamination?

Note: We are unaware of any lining technology that would permit a high integrity lining over so large an area without draining the reservoir.

12. a. If Great Western is acquired, will wastewater treatment be required at the plant site or at Great Western (related to stream classification/segmentation)?
- b. Does this acquisition include the existing Broomfield water treatment facility and can it be used for treatment of water prior to discharge?

13. Are water rights included in the acquisition of Great Western Reservoir?

14. The security issues such as fence and roads must be considered. The potential for sabotage is greatly increased.

15. This acquisition would require the expansion of Rocky Flats property east of Indiana Street. What will public reaction be?

Note: DOE acquisition of Great Western Reservoir will bring Rocky Flats one mile closer to existing downstream developments. (ie. Broomfield).

16. Mass balance studies are imperative.

17. a. What would be acceptable for ultimate disposition of waters?
- evaporation
  - recycle/reuse
  - monitor - treatment - discharge downstream
  - on-site wetlands enhancement
  - land application
  - sale of water

2067

Memorandum  
October 4, 1990  
Page 3

18. Where would the liability rest for Great Western after shutdown of Rocky Flats?
19. What is maximum permissible drawdown (to avoid bottom exposure)?
20. Can we store water only above some minimum drawdown level?
21. What approach is desired if studies and exploration determine that the entire Great Western Reservoir dam should be removed and replaced, rather than bolstered?
22. As part of the acquisition process, it should be assumed that structure classification and associated standards between Rocky Flats facilities and Great Western Reservoir have been, or will be, revised to permit surface discharge from Rocky Flats Plant to Great Western. (See #2).
23. Will Federal acquisition of Great Western Reservoir include fee title to the reservoir, existing water treatment facilities, access facilities, present and/or additional land needed for physical and security buffers and for any specific areas required for temporary maintenance and construction?
24. Will Great Western upgrades and remediation interface with its proposed usage and operating schedules?
25. How long will Broomfield's conversion to an alternate system take, considering that there will be a finite period of time before Great Western could be available for delivery to the Federal government?
26. What is the combined foreseeable delay until construction modifications of Great Western Reservoir could be initiated and until the option operations could be implemented?
27. What special water management provisions would have to be, or can be, taken in the interim?
28. Will an EIS be required? If so, can the EIS process be initiated immediately?
29. Will Great Western Reservoir require a separate NPDES permit?
30. Should Great Western Reservoir be compartmented for batch discharge segregation prior to release?
31. Which of the present outfall options should be further explored as a means to dispose of excess waters in Great Western Reservoir?

Memorandum  
October 4, 1990  
Page 4

32. What additional on-site storage will be required, if any?
33. What would be the efficacy of diversions of tributary runoff from off-site around Rocky Flats Plant to Rock Creek?

## Advantages of Option B

1. The consensus among all participants of the Skagg's Committee was that Option B best meets the group's stated objectives.
2. It provides high level of confidence for water users and the city governments.
3. It address both storm water runoff and Plant process effluent.
4. Water from Great Western can be treated by the existing treatment plant to assure higher quality of discharge.
5. Option B addresses participating cities' criteria.
6. Conversion and upgrade of Great Western Reservoir is potentially less costly than building additional storage on Plant site.
7. Option B removes Broomfield drinking water from the Rocky Flats drainage area and provides a high level of protection to Standley Lake drinking water supply.
8. Option B would simplify ongoing water quality management practices.
9. Final disposition of water is open to a wide array of options including:
  - evaporation
  - recycle and reuse
  - treatment and discharge
  - sale to downstream water users
10. The large storage volume of Great Western will hold multiple years of discharge of large storm event waters.