CHAPTER 18

WATER SUPPLY AND QUALITY MANAGEMENT

18-1. The Federal Interest. National policy, defined by Congress, has been developed over a number of years and is still being clarified and extended by legislation. This policy recognizes a significant but declining Federal interest in the long range management of water supplies and assigns the financial burden of supply to users.

18-2. Water Supply.

a. Water Supply Storage. Municipal and industrial (M&I) water supply is considered the primary responsibility of the municipalities or other non-Federal entities. However, M&I storage space may be recommended for inclusion in any Corps reservoir pursuant to the Water Supply Act of 1958 (Title III, Public Law 85-500), as amended. If such storage space is economically justified and represents the least cost alternative, it may be added to any project at any time. However, modification of existing projects for this purpose which would severely affect the project, its other purposes, or its operation, requires Congressional authorization. An agreement covering all costs allocated to present use and future water supply must be negotiated, and submitted to HQUSACE for approval and execution by the Assistant Secretary of the Army for Civil Works (ASA(CW)), prior to initiation of project construction. The legislation provides that allocated costs must be reimbursed by the water users within the life of the project but not to exceed 30 years after project completion; current administrative policy for new construction starts, however, requires that all construction costs allocated to water supply be repaid during the period of construction. Federal interest rates are as defined in Section 932 of WRDA 1986 (Public Law 99-662). Storage in existing projects assigned to M&I prior to enactment of WRDA 1986 (17 November 1986) and not yet covered under an agreement as of that date shall be repaid within 30 years of the plant-in-service date (which includes a 10-year interest free period for water supply) at the interest rate defined in the Water Supply Act. Water supply agreements are for water supply storage space only. The Federal Government makes no representation with respect to the quantity or quality of water and assumes no responsibility for the treatment or availability of the water.

b. Permanent Rights to Storage. Public Law 88-140 grants permanent rights to use storage to local interests when they have paid the costs of including the storage in the project under an agreement with the Government. Their rights to use the storage continue as long as the storage is physically available, taking into account equitable reallocations as necessitated by sedimentation. They must also agree to continue to pay their share of annual operation and maintenance (O&M) costs allocated to the water supply storage, together with their share of the costs allocated to any necessary repair, reconstruction, rehabilitation, or replacement of any features which may be required to operate the project. Storage space for raw water is provided. Surplus water agreements executed under the authority of Section 6 of the 1944 Flood Control Act do not provide permanent right to the storage.

c. Modification of Completed Projects. Reallocation of reservoir storage that would have a significant effect on other

authorized purposes or that would involve major structural or operational changes requires Congressional approval. Procedures for this type of agreement are the same as for provision of water supply storage as part of original project construction. The cost for such storage will normally be established as the higher of either benefits or revenues foregone, replacement cost, or the cost of storage in the Federal project. The interest rate used for discounting future benefits, revenues or costs is the current rate used for project evaluations--see paragraph 5-7.f(3). The cost of storage is determined by computing costs, at the time of construction, by the use of facilities cost allocation method, and then updating such costs to present day price levels by use of a combination of the Engineering News Record Construction Index and the Corps of Engineers Construction Cost Index. Any specific costs of construction allocated to the new water supply storage must be repaid during the period of construction. The cost associated with the storage space may be repaid over a 30-year period from the date the storage is available--which generally will be the date the agreement is signed by ASA(CW). Interest on unpaid balances shall be at the rate specified in Section 932 of WRDA 1986. Prior to recommending a reallocation of storage in a project, the district commander shall provide an opportunity for public review and comment. This shall be documented and included as part of any request for reallocation approval.

Comment [COMMENT1]: Although a comment was made regarding the use of indexing in this case, I believe there is a good rationale for it. Unlike costs for a project not yet completed (or not yet under construction) where cost changes have budgetary and possible feasibility impacts, in the case of reallocations, the project is in the ground and the costs of construction are no longer subject to change. In this case, the cost, time and effort involved in preparing a detailed estimate to provide an updated cost of construction would not be justified.

Comment [COMMENT2]: This option was eliminated by ASA(CW) in 1991 and letters were sent to all commands informing them.

d. Surplus Water.

(1) Authority. Under Section 6 of the 1944 Flood Control Act (Public Law 78-534), the Secretary of the Army is authorized to make agreements for surplus water with states, municipalities, private concerns, or individuals at such prices and on such terms as he or she may deem reasonable. These agreements may be for domestic, municipal, and industrial uses, but not for crop irrigation, from surplus water that may be available at any reservoir under the control of the Department of the Army.

(2) Surplus water is defined as either:

(a) Water stored in a Department of the Army reservoir that is not required because the authorized use for the water never developed or the need was reduced by changes that occurred since authorization or construction; or

(b) Water that would be more beneficially used as municipal and industrial water than for the authorized purpose and which, when withdrawn, would not significantly affect authorized purposes over some specified time period.

(3) Requirements and Restrictions.

(a) Surplus water declarations will only be made when related withdrawals will not significantly affect authorized purposes.

(b) Surplus water agreements shall be accompanied by a brief letter report similar to reallocation reports (reference paragraph 4-32 d.(1)) and shall include how and why the storage is determined to be surplus.

(c) Surplus water agreements will normally be for small amounts of water and/or for temporary use as opposed to storage

reallocations and permanent right to that storage. Normally, surplus water agreements will be limited to 5 year periods.

(d) Use of the Section 6 authority should be encouraged only where non-Federal interests do not want to buy storage because the need of the water is short term or the use is temporary pending the development of the authorized use.

(e) The views of the affected state(s) will be obtained, as appropriate, prior to entering into any agreement under Section 6.

(f) The annual price deemed reasonable for this use of surplus water is to be determined by the same procedure used to determine the annual payment for an equivalent amount of reallocated storage plus an estimated annual cost for operation and maintenance, repair, replacement, and rehabilitation. The total annual price is to be limited to the annual costs of the least cost alternative, but never less than the benefits foregone (in the case of hydropower, revenues forgone).

(g) Declaration of surplus irrigation water in the 17 western states will require appropriate coordination/consultation with the Department of the Interior (Bureau of Reclamation).

(h) For certain small withdrawals (including a group of separate users at a specific project), under Section 6 authority, a standard minimum charge or standard unit charge should be established and applied for all of the numerous withdrawals. All proposals for establishment of such standard charges must be submitted to HQUSACE (CECW-A) for approval.

e. Interim Use Of Water Supply for Irrigation. Section 931 of WRDA 1986 provides that, for any reservoir project constructed and operated by the Corps, the Secretary of the Army is authorized to allocate storage which was allocated in the project for M&I water supply, and which is not under agreement, for interim use for irrigation purposes. In accordance with Subsection 103(c)(3) of WRDA of 1986, the cost to the local sponsor shall be 35 percent of the original project investment allocated to M&I water supply (for the block of storage to be used for irrigation). The period of analysis for computing the annualized payments shall be 30 years, with the payment based on the original project interest rate as established by the Water Supply Act of 1958. The non-Federal sponsor shall also be responsible for 100 percent of OMRR&R costs allocated to the storage space being put under agreement. The term of the agreement for this interim use shall not exceed five years. An option for incremental five year extensions is allowed in the basic agreement only if it provides for recalculation of annual OMRR&R costs at the end of each 5-year increment. Agreements for such interim use of water supply storage for irrigation are subject to the same reporting and submission requirements as those for water supply agreements. Future sponsors for M&I use of the storage space shall not receive any credit, in consequence of the interim use payments, toward repayment of project water supply investment costs.

f. Seasonal Operation for Water Supply. Congress has not granted general authority for including storage space in Corps projects for seasonal M&I use, either as withdrawals or to improve groundwater supplies. Where not specifically authorized, seasonal

operation of a project for water supply may be conducted, consistent with authorized project purposes and law. Seasonal storage can be accomplished under the deviation from water control plan authority as described in ER 1110-2-240. There can not be a continuing or recurring deviation from approved water control plans. In the case of a continuing or recurring change, the water control plan must be changed and the required approval obtained from HQUSACE. Pricing policy for changes in project operations requires that non-Federal interests be responsible for payments/repayments equaling the following:

(1) Any new construction costs and new operations costs (100 percent);

(2) A share of joint-use project operation, maintenance and replacement cost, based on use-of-facilities storage allocation;

(3) Benefits foregone;

(4) Compensation to others for losses in their operations (may be the same as (3) above); and

(5) An amount equal to one-half the savings to the benefited non-Federal interests (least cost alternative minus the specific costs of the modification listed in (1) through (4) above).

g. Single Purpose Water Supply. Single-purpose water supply projects will not be recommended as Federal projects by the Corps. A proposed project which includes M&I water supply will be defined as a single-purpose water supply project where less than 20 percent of the anticipated NED benefits are attributable to flood control, navigation, environmental restoration, and/or agricultural water supply. (This definition does not apply to proposed modifications to existing projects.) An exception is possible if separable, economically justified storage is required to realize flood control, navigation, environmental restoration, and/or agricultural water supply benefits. In this case, at least 10 percent of the total NED benefits must be attributable to these purposes for the project to be considered multi-purpose.

Comment [COMMENT3]: Environmental Restoration is a high priority project purpose and, therefore, should be included in those project purposes that determine whether a project is multi-purpose. Its inclusion will, however, create a new problem in that the outputs associated with environmental restoration are seldom monetary. A question that must be addressed now is how to treat these non-monetary benefits under the 10 and 20 percent rules.

h. Withdrawal and Conveyance Systems. Releases through a dam, into the stream, are frequently used to convey water from an impoundment to downstream users. It is the user's responsibility to protect the releases made for it from intervening diversion or consumption. The feasibility report must present the evaluation of alternative water supply measures, which must consider the costs of all facilities needed to withdraw and convey water from the various sources to user's system, the impact on project justification of both including or not including these facilities, and the ability and willingness of potential water users to pay for the delivery system. Withdrawal and conveyance facilities may be incorporated as components of Federal projects when they are essential components of plans for effective development and use of water resources for flood control, M&I water supply, agricultural water supply (irrigation), navigation, hydroelectric power production or other purposes in which Federal

interest resides. (This provision does not extend to inclusion of local water distribution systems.) If, prior to initiation of project construction, one or more users can be found to enter into an agreement for repayment of conduit costs, the conduit may be included as part of the dam structure. These costs will be identified as specific water supply costs with 100 percent of the investment and OMRR&R costs being repaid by the user.

i. Agricultural Water Supply (Irrigation). The Corps may include irrigation storage in reservoirs outside the 17 western states provided that non-Federal interests bear 35 percent of reservoir costs allocated to irrigation. Non-Federal interests requesting irrigation capacity as a project purpose should provide a firm expression of intent to use and pay for the requisite storage, should obtain, as necessary, water rights or their equivalent, from the state, and possess legal power to enter into an agreement with the Federal Government.

j. Agreement Approvals. Approval authority for water supply storage space agreements is laid out in ER 1105-2-100, Table 4-5.

18-3. Water Quality Enhancement and Management.

a. Water Quality Standards. The Federal Water Pollution Control Act of 1948 (Public Law 845, 80th Congress), as amended in 1956, 1961, 1965, 1970, 1972, 1977 and 1987, established the basic tenet of uniform state standards for water quality. The Federal Water Pollution Control Act Amendments of 1972 (Public Law 92-500) strongly affirms the Federal interest in this area. "The objective of this act is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." While the Act is to be administered by the Environmental Protection Agency (EPA), the primary responsibility for its implementation, including the provision of adequate water quality standards, is to remain with individual states. However, state standards must meet EPA established guidelines, and are subject to EPA approval or revision. Prior to 1986 (see paragraph 18-3(c)), pursuant to Subsection 102(b)(3) of Public Law 92-500, the need for, the value of, and impact of storage for water quality was to be determined by the Administrator of EPA and set forth in Corps reports to Congress proposing authorization or construction of any reservoir including such storage.

b. Completed Reservoir Projects. Although water quality legislation does not require permits for discharges from reservoirs, downstream water quality standards should be met whenever possible. When releases are found to be incompatible with state standards they should be studied to establish an appropriate course of action for upgrading release quality, for the opportunity to improve water quality in support of ecosystem restoration, or for otherwise meeting their potential to best serve downstream water quality needs. Any physical or operational modification to a project (for purposes other than water quality) shall not degrade water quality in the reservoir or project discharges. (EM 1110-2-1201, ER 1110-2-8154)

(1) Changes in Water Control Plans for Water Quality

Management. Authorities for allocation and regulation of reservoir storage in projects operated by the Corps are in the acts authorizing the projects. Proposed changes in water control plans must be carefully reviewed to determine the extent of change which may be undertaken consistent with the authorizing legislation. (With some specific exceptions, revised plans for purposes not encompassed by the existing project authority require new Congressional authorization.) Further Congressional authorization is not required to add water quality functions if the related revisions in regulation would not significantly affect operation of the project for the originally authorized purposes. (EM 1110-2-3600, ER 1110-2-240, ER 1165-2-119)

(2) Modification of Completed Projects to Meet Water Quality Needs. Recommendations for modification of a project for water quality reasons (involving alteration of original project purposes or addition of environmental restoration as a project purpose), if they are to be adopted, must be presented in a feasibility report and submitted to Congress for specific authorization of such modification. Evaluation of benefits from such modifications and allocation of costs to the basic purposes served (and, hence, cost sharing as appropriate to those purposes) will be in accordance with policy for new projects as discussed in paragraph 18-3c.

c. New Projects. Pursuant to Subsection 103(d) and Section 1135 of WRDA 1986, as amended, water quality enhancement provisions may be included in new Corps reservoir developments to the extent that the related benefits can be identified with basic project purposes as listed in Subsections 103(a),(b),(c)and Section 1135: flood control, hydroelectric power, municipal and industrial water supply, agricultural water supply, recreation, hurricane and storm damage reduction, aquatic plant control, and fish and wildlife. The need for and the value of storage for regulation of streamflow for these purposes, as well as for navigation and fish and wildlife, is determined by the Corps. The value of storage for water quality and streamflow regulation for such purposes shall be included with the other monetary and non-monetary benefits of project development for these purposes in the determination of project justification. Costs associated with water quality enhancement and streamflow regulation shall be allocated to the purposes that are served by these provisions (listed in Subsections 103(a)(b)(c), navigation, and fish and wildlife). If conjunctive use of the same storage serves more than one of these basic purposes, allocation to streamflow regulation with a suballocation to the basic purposes may be appropriate. As a condition of authorization for projects which incorporate provisions for streamflow regulation, states or other qualified sponsors shall normally be required to furnish assurances that they will protect regulated low flow releases against withdrawals or diversions to other uses when Federal cost sharing is provided for the purpose served.

18-4. Water Rights Involved in Project Development.

a. Definitions. Water rights in some states are a form of real property, protected by state and Federal laws. In other states, water may be considered part of the public trust and subject to use under state regulatory laws. Depending on the State law in the

locale, water rights may originate in ownership of riparian lands or be acquired by statutorily-recognized methods of appropriation. Riparian lands are those which immediately adjoin a river. Riparian water rights are the right to use, on that land, an amount of water considered "reasonable:" that amount which allows maximum use by a riparian landowner without unreasonably impairing other riparian owners. Appropriation systems, predominant in the western states, permit use of a carefully designated amount of water, regardless of land ownership or place of use. Allocations among users are made by temporal priority. Differences between the two basic systems, however, are being overshadowed by state permit systems which require all water users to obtain finite determinations of their water rights.

b. Effects on Projects. States have wide powers to legislate the use of property within their borders, except these powers are restricted by several paramount Federal powers granted under the Constitution. Civil Works water resource projects are built under Congressional authorization and usually are not subject to concurrent authorization by state agencies. In particular cases, such as those involving inter-basin transfers, interstate compacts, or Supreme Court allocations, projects must be designed to recognize water rights claimed by the residents of an affected state. Congress has also established policies which protect and recognize certain state-created rights, such as Section 1 of the Flood Control Act of 1944, which subordinates use of water for navigation purposes to beneficial consumptive uses of the streams in the western states. Water rights may also be affected by authorized projects in which Congress has made a quantified allocation of waters between the involved states.

c. Effects of Regulated Flows. Water resource projects, by their very nature, often have significant effect on the quantity and timing of flows in a river system. Whether such actions constitute an injury to private water or other property rights for which the Federal Government or a non-Federal project sponsor must pay compensation depends on whether its actions come within the Government=s rights under the navigation servitude. This will depend on the degree of interference, the navigability of the stream, and other related factors. Careful consideration is given to the existence of lawful water uses in the downstream areas. Encroachment on those uses is avoided as much as possible.

d. Acquisition of Water Rights. Downstream waters made available by a project are subject to allocation under state laws. The parties desiring to use the waters impounded by a reservoir must acquire the necessary water rights under the provisions of state laws, and regulations, and resolve conflicts among users at the local or state level. The Corps provides flow regulation service or storage space within the reservoir to water users as authorized and is not involved in adequacy or timing of the acquisition of water rights.

e. Legal Sources. United States v. Cress, 243 U.S. 316(1917); United States v. Kansas City Life Ins. Co. 339 U.S.799 (1950); Wyoming v. Colorado, 353 U.S. 953(1957); Arizona v. California, 373 U.S. 546(1963); Turner v. Kings River Conser. Dist. 360 F. 2d184 (9th Cir.

1966).

18-5. Emergencies.

a. Water Supply. Section 5 of Public Law 77-228, as amended by Section 82 of Public Law 93-251 provides the Chief of Engineers with discretionary authority to provide emergency supplies of clean water, on such terms as he determines to be advisable, to any locality which he finds is confronted with a source of contaminated water causing or likely to cause a substantial threat to the public health and welfare of the inhabitants of the locality. Work under this authority requires a request from the governor of the state where the source of water has become contaminated and is normally limited to 30 days. Loss of water source or supply is not correctable under this authority. Public Law 95-51 further amended Section 5 to provide the Secretary of the Army authority under certain statutory conditions to construct wells and to transport water to farmers, ranchers, and political subdivisions within areas the ASA(CW) determines to be drought distressed. A written request for assistance may be made by any farmer, rancher or political subdivision within a distressed area. Corps assistance will only be considered when non-Federal interests have exhausted reasonable means for securing necessary water supplies (within the limits of their financial resources) including assistance from other Federal agencies. Evaluations of requests for assistance are to be tempered by the fact that Corps assistance is supplemental to state and local efforts. Long term solutions to water supply problems are the responsibility of state and local interests. This authority is not to be used to provide drought emergency water assistance in cases where a livestock owner has other options. Those options include raising funds from private sources through a loan, and by selling all or part of the herd, even though the sale may be at deflated prices, to purchase water or facilitate relocation of the animals to an area where water is available. Federally-owned equipment must be used to the maximum extent possible. Assistance can be provided to transport water for consumption. The cost of transporting water is provided by the Corps; however, cost of purchasing and storing water is the non-Federal interest's responsibility. In addition, assistance can be provided to construct wells. Federal costs for well construction must, however, be repaid. (ER 500-1-1 and ER 11-1-320)

b. Water Supply Planning. The Department of the Army has absorbed emergency water supply functions which formerly were a responsibility of the Department of the Interior. The transfer will enable the Corps to develop, nationwide, emergency plans and preparedness programs for water. The transferred responsibilities will complement previously held authorities and will permit more comprehensive and efficient management of water as a scarce resource during an emergency. (Paragraph 28-2.a)

c. Water Quality. Emergency or unusual conditions have developed in past years on rivers and waterways as a result of accidental spills of pollutants and extreme, short-term low flows. The Corps has adequate authority under existing laws to regulate projects in the public interest under emergency conditions, with one

possible exception. In very rare instances, water supply under agreement might be the only water in storage available for immediate release. In those instances it is necessary to obtain the cooperation of the water supply owner to make releases. Approval of HQUSACE is required to deviate from the approved water control plans.

d. Drought Contingency Plans. Water control managers will continually review and adjust water control in response to changing public needs. Many areas of the country face chronic or serious drought conditions. Preparation of drought contingency plans is, for Corps projects with controlled reservoir storage, a part of the Corps overall water control management activities. Existing authority (Section 6 of the Flood Control Act of 1944) is adequate to permit temporary withdrawal of water from Corps projects to supplement normal supplies in time of drought. Under Section 6 of the Flood Control Act of 1944, the Secretary of the Army is authorized to make agreements with states, municipalities, private concerns or individuals at such prices and on such terms as he may deem reasonable for domestic and industrial uses for surplus water (see paragraph 18-2.d) that may be available in any reservoir under the control of the Department of the Army. In providing such surplus water, the preferred approach is for a state or subdivision of a state to enter into an agreement with the Secretary of the Army and agree to act as wholesaler for all of the water requirements of individual users. This places the local government in a position to help their citizens during difficult times and minimizes the potential for problems that could arise if the Secretary had to determine who was entitled to shares of surplus water based on assessment of local needs. Such withdrawals require a fee for the service provided, even in the case of a declared national disaster area. (ER 1110-2-1941)