The Shape of Things to Come: A Model Water Transfer Act for California

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Wheeling Provisions of the Model Water Transfer Act

Timothy H. Quinn*

I. Introduction

The 1990's have been a period of great promise for ending decades of policy gridlock in California's storied water wars. After years of conflict, the main stakeholder groups, representing urban, agricultural, and environmental interests, as well as key state and federal governmental agencies, have entered a new era of cooperation. In December 1994, the historic Bay-Delta Accord forged consensus regarding environmental protections for the San Francisco Bay/Sacramento-San Joaquin River Delta (Bay-Delta). That same month, the "Monterey Agreement" ended years of disputes regarding the finances and water allocations of the State Water Project. During 1996, an unprecedented stakeholder coalition worked cooperatively to secure state and federal funding for environmental restoration in the Bay-Delta watershed totaling more than $1.4 billion.1 Building upon this foundation of consensus and cooperation, California has a remarkable opportunity to resolve major environmental and economic problems that have long plagued its water policies.

Developing effective and fair approaches to the voluntary transfer of water among willing buyers and willing sellers remains one of the central challenges to achieving the full policy potential of the 1990s. From the earliest days of

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cooperative negotiations in the so-called “Three-Way Process,” it has been clear that environmental interest groups and others concerned about the implications of improving the state’s water transportation infrastructure, particularly in the Bay-Delta, could support such improvements only if strong assurances were provided that improved water management practices would be implemented statewide. Among these assurances is the implementation of effective water markets so that future growth in the State’s water demands can be met in part by voluntary transfers of existing supplies, rather than solely through the construction of costly and environmentally damaging new capital projects to increase supplies.

Long regarded as theoretically attractive by academics, environmentalists, business interests, and some urban water suppliers, water marketing has evolved from theory to practical reality during the past decade. The recent state-run drought water banks, while significantly constraining market forces in favor of governmental decisions regarding the allocation of water, nonetheless provided ample evidence of the power of private market forces to help allocate scarce water resources. Increasingly, in places such as the west side of the San Joaquin Valley, where more and more stringent environmental regulations have eroded traditional sources of supply, water users are relying on the market as a long-term source of replacement supplies. In Southern California, an extensive integrated resources planning process has identified water transfers as a key to the region’s long-term water supply reliability from both the Colorado River and State Water Projects systems.

While a vital element of long-term water policy, water marketing has nonetheless been one of the most contentious issues in the California water policy debate. Water marketing is the subject of fierce differences regarding the proper role of state and federal governments and of water agencies. The issue also raises concerns about impacts to the economy, to groundwater resources of selling areas, and to the adverse financial impacts in both the selling and buying regions. Against this backdrop of potential and pitfalls, the Model Water Transfer Act (Model Act) emerges as one of the more important issues that may confront the state legislature in its 1997 session. The Model Act proposes wide-

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4. For a review of integrated resources planning in Metropolitan’s service area, see METROPOLITAN WATER DISTRICT OF S. CAL., SOUTHERN CALIFORNIA’S INTEGRATED WATER RESOURCES PLAN, REPORT NO. 1107 (MARCH 1996) [hereinafter SOUTHERN CALIFORNIA PLAN].
ranging statutory changes designed to consolidate and simplify California’s existing labyrinth of law affecting water transfers.

This article provides a critical review of this ambitious and complex legislative proposal, with a particular emphasis on the wheeling provisions of the Model Act. Section II offers general observations on what will be required for sustainable policy change to assure the continued evolution of water markets. Section III defines some common sense principles for wheeling policies based on the need for sustainable marketing policies. Section IV summarizes the wheeling provisions of the Model Act, while Section V provides an assessment of these provisions along with recommendations for some key changes. Section VI offers concluding remarks and recommendations for changes in the wheeling provisions of the Model Act.

Wheeling is one of the most important policy areas affecting the overall success of efforts to promote effective voluntary marketing. In its current form, the wheeling provisions of the Model Act fall considerably short of achieving sound policy that will promote sustainable water markets in California. These provisions could result in substantial negative water supply and financial impacts on other water users who are not parties to a transaction. Accordingly, the Model Act’s provisions would likely add to the controversies plaguing California water policy rather than resolve conflict. However, with appropriate changes, the Model Act provides a framework through which the stakeholders, legislators, and others can create a viable market as part of a successful comprehensive water policy for California’s future.

II. Creating a Sustainable Water Market

To be sustainable and to create lasting benefits for the State’s environment and economy, any major policy change related to the establishment of a voluntary water market must strive to generate a broad distribution of gains and to avoid unnecessary negative impacts on stakeholders not directly involved in market transactions. This common-sense principle certainly applies to wheeling policies, which have the potential of greatly facilitating market transactions, but could also result in enormous negative impacts on others if implemented imprudently.

As defined by the proponents of the Model Act, wheeling involves the act of “using the water supply facilities by someone other than the owner or operator to transport water” for a fee.5 While perhaps an unglamorous topic, wheeling in fact can play a critical role in facilitating more competitive behavior on both the supply and demand side of the water market. On the supply side, a wheeling policy can assure physical access to supplies made available by willing sellers. On the demand side of the market, wheeling can create competition

among buyers by allowing existing customers of water supply agencies to acquire water supplies in a commodity market on their own.

However, if wheeling plays an important role in promoting competition, it also poses enormously complicated challenges to assure that positive market incentives do not result in negative impacts on those who choose not to participate in a particular market transaction. To understand potential impacts on nonparticipants, it is useful to distinguish between the physical and financial aspects of a wheeling transaction.

Physically, wheeling is often essential to assure access to the existing storage and transportation infrastructure for the delivery of market supplies to purchasers. The voluntary market transaction itself creates a raw water supply. Like any other supply source in the arid West, wheeling is required as a separate service to transport the available commodity supply across both time and space. However, the owners and other customers of the existing storage and transportation system have typically invested vast amounts of financial resources in these systems. These stakeholder interests will reasonably demand that a wheeling policy fully protect the benefits they anticipated when investing in the infrastructure, including access to low-cost supplies, reliability, and flexibility.

Financially, the establishment of wheeling charges requires the owners of the existing infrastructure system to determine how much of the system’s fixed and variable costs should be recovered by those wheeling their own water, and how much should be recovered by those receiving normal agency supplies. Since the vast majority of costs for public agencies which operate water storage and distribution systems are fixed and unavoidable, disputes among current owners and would-be wheelers are likely. If wheeling charges do not recover an appropriate amount for unavoidable costs, then these costs will have to be shifted to the public agency’s other members or customers who are not parties to the transaction. These other members or customers will experience rising water rates as a result of market transactions over which they have no control. By the same token, if wheeling charges are unnecessarily high, desirable transactions could be discouraged which would otherwise increase supplies available for use within the service area of the public agency that adopts such charges.

During the past five years, the Metropolitan Water District of Southern California (Metropolitan) has confronted the challenges of developing a sound wheeling policy as it has received a variety of wheeling proposals ranging from short-term transfers to replenish groundwater basins to a well-publicized long-term transfer from Imperial Irrigation District to the San Diego County Water Authority. To deal with the challenges of an increasingly competitive environment, Metropolitan and its member agencies created a mediated negotiating process to make recommendations to Metropolitan’s Board of Directors regarding changes in Metropolitan’s rate structure, including the establishment of wheeling services and charges. At its November 1996 meeting, Metropolitan’s Board adopted a wheeling policy based on the report of the mediated process. The overall goal of the policy is to provide access to Metropolitan’s system, thereby promoting competition in the water market.
while fully protecting the financial and water supply of all of its member agencies.  

The decision to establish such a policy is historic. Dating back to the 1952 Laguna Declaration, the policy of Metropolitan has been that the District shall be the sole provider of supplemental water to its member agencies in Southern California. The recently adopted wheeling policy reverses that trend, recognizing the potential value of member agency market purchases as a source of supply for the region.

III. Some Common Sense Wheeling Principles

To assure that market transactions do not have unnecessary negative financial or water supply impacts on nonparticipants, wheeling policies should embrace some common sense principles. To illustrate, this section describes wheeling principles recently adopted by Metropolitan. While developed by Metropolitan in cooperation with its member agencies, similar principles are necessary in other parts of California to implement a balanced wheeling policy.

**Equal Treatment.** Perhaps the most fundamental wheeling principle is that all water moving through the storage and transportation system, whether normal supply deliveries or water being delivered under a wheeling agreement, should be treated the same. This concept assures market participants that they will enjoy a “level playing field” in the use of the storage and transportation services being sought under a wheeling arrangement. Similarly, the equal
treatment principle assures existing customers that those seeking wheeling services will share equally in the responsibility to pay for the storage and transportation system.

**No Financial Harm.** A fundamental tenet of fairness is that nonparticipants in a market transaction should not experience an increase in their costs or water rates as a result of the implementation of a market transaction. If this principle is violated, nonparticipants will have incentives to oppose market transfers. As a practical matter, this principle requires that wheeling charges must fully recover a fair share of all unavoidable costs associated with the system through which wheeling is desired. By definition, if a reasonable portion of such unavoidable costs are not recovered in the wheeling charge, these costs must be shifted to others, thereby increasing the water rates of third parties not involved in the market transaction.  

**Reliability.** Wheeling terms and conditions must be structured to deliver water to the market participants in a manner that does not interfere with supply deliveries that would otherwise be available to others as a result of their investment in the existing system. This principle requires that the owner and the existing customers be given the flexibility to operate the storage and transportation system to accommodate future conditions. Virtually all water supply systems vary greatly and unpredictably in their utilization, depending upon hydrologic and other variable conditions, such as the demands of other contractors entitled to water from a joint project. During wet conditions the system may be fully utilized, for example, by carrying water for local groundwater or surface reservoir storage. At other times, excess capacity may be present. Requiring rigid rules guaranteeing delivery of transferred water, regardless of future circumstances, could negatively impact the owners and the other users of the system by denying them necessary discretion in the operation of the system under changing circumstances.

**Water Quality.** The Metropolitan wheeling policy, in effect, requires a nondegradation standard for market transactions. Adverse impacts on water

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9. Metropolitan’s wheeling rate is based on the premise that a member agency purchasing water from Metropolitan at the “bundled” full service rate includes payment for the fixed and unavoidable costs of the system, including transmission and storage, plus appropriate variable costs. These costs represent approximately 85% of Metropolitan’s costs. To develop wheeling rates, Metropolitan in cooperation with its member agencies, “unbundled” its costs to determine which costs should appropriately be recovered and which costs should not be recovered. To avoid injury to other member agencies, wheeling rates should recover that portion allocated to unavoidable costs on the same basis as member agencies purchasing Metropolitan supplies. This approach to establishing wheeling rates is similar to that being implemented by the California electric utility industry as part of AB 1890, signed by Governor Pete Wilson in September, 1996, which allows for the recovery of unavoidable and stranded costs.
quality can affect drinking water quality as well as impair water reclamation and conjunctive use efforts. Because of the unanimous concerns of Metropolitan’s member agencies, wheeling transactions will not be allowed to degrade water quality. Wheeling proponents would have the option to proceed with a transfer if any adverse water quality impacts were mitigated to the satisfaction of the party potentially harmed.

**Water Management Programs.** Finally, wheeling transactions should not interfere with the financing or implementation of other water management programs that are critical to the state or region. To accomplish this, and to be consistent with the principle of equal treatment, the wheeling charge should recover a proportionate share of the region’s financial assistance to such programs as wastewater reclamation and reuse, conservation, and groundwater recovery. When Metropolitan’s customers utilize the storage and distribution system, the water rate they pay recovers a portion of the costs of such programs. Such programs are beneficial to Metropolitan’s customers because they are designed to stretch the available capacity in the existing system and to help reduce demands for imported water which promotes consensus on vital statewide water issues. Because wheelers also enjoy the benefits of these programs, they should pay a proportionate share of costs. Failure to do so would either undermine the financial integrity of programs vital to regional and statewide interests or unfairly shift the costs to other customers utilizing the system.

**IV. Wheeling Provisions of the Model Act**

In an effort to promote more competition on the buyers’ side of the emerging water market, Section 804 of the Model Act expressly allows the members or customers of a water supply agency to acquire transfer water from sources other than the water supply agency. If such a transfer would require the use of the water supply agency’s storage and transportation facilities to deliver the purchased water, the water supply agency must comply with the wheeling provisions of the Model Act.

In brief, the key wheeling provisions of the Model Act include the following:

**Access.** Section 901(a) of the Model Act requires a public water agency to allow any legal users of water to use up to 70 percent of the unused capacity in the water supply system of the agency to wheel transferred water. The Model Act further provides that the entity seeking such wheeling shall be assured the right to such capacity “throughout the term of the water transfer agreement.”

**Prompt Action.** Section 902(b) requires prompt determination by the public agency, within 30 days of receipt of a written request for wheeling,
regarding the availability of unused capacity and the terms and conditions for wheeling water.\footnote{11}

**Water Quality.** Section 903(a) would permit the introduction of transfer water to the system of a public agency that could significantly degrade the quality of water delivered to the customers of the agency. The public agency could prohibit or impose restrictions on the transaction only “if . . . the transferred water would diminish the quality of the water in the system to an extent that the blended water could not be treated for distribution to the public agency’s other members or customers,” or if reasonable terms and conditions were required to assure that the water supply could comply with all applicable water quality and environmental standards.\footnote{12}

**Fair Reimbursement.** Section 903(b) allows the public owner to impose wheeling charges for the use of its system. These charges may recover capital, operations and maintenance, and replacement costs only for the “portion of the unused capacity made available by the agency for the transfer of water.” In addition, the agency may recover power, treatment and reasonable administrative costs.\footnote{13}

**Administrative Discretion.** The Model Act affords little discretion to the public agency in making decisions regarding whether and under what terms and conditions to offer wheeling services. Section 904(a) requires that all disputes regarding the agency’s decisions be subject to binding arbitration. If the parties to the dispute cannot agree on an arbitrator, Section 904(c) requires that a single, neutral arbitrator be selected by the State Water Resources Control Board. In all related proceedings, the public agency would bear the burden of proof based on a preponderance of the evidence, and the decision of the arbitrator would be final and beyond challenge by the public agency.\footnote{14}

**V. An Assessment of the Model Act Wheeling Provisions**

Essentially, the common sense wheeling principles discussed in Section III require that:

- Transferred water and normal deliveries using the same storage and transportation system be treated equally;
- Market transactions be structured to avoid adverse financial, water supply, or water quality impacts on others; and

\footnotesize{\begin{itemize}
\item \textit{Id. § 902(b).}
\item \textit{Id. § 903(a).}
\item \textit{Id. § 903(b).}
\item \textit{Id. § 904.}
\end{itemize}}
Wheeling policy protect the financial integrity of water management programs, such as reclamation and reuse and implementation of urban water conservation Best Management Practices (BMPs).\textsuperscript{15}

Consistent with these principles, current law regarding wheeling contains an explicit provision that the "use of a water conveyance facility is to be made without injuring any legal user of water . . . ."\textsuperscript{16} Similarly, the precedent-setting water marketing provisions of the Central Valley Project Improvement Act protect nonparticipants in the market by requiring that voluntary transfers result in "no unreasonable impact on the water supply, operations, or financial conditions of the transferor's contracting district or agency or its water users."\textsuperscript{17} In contrast, the proposed wheeling provisions of the Model Act include no comparable provision. Indeed, an analysis of the possible impacts of the Model Act's wheeling provisions indicates that, as currently proposed, they could result in substantial negative impacts on others.

The Model Act requires that determinations of available unused capacity be made on a system-wide basis, but that wheeling charges be assessed only with respect to the portion of the system used to transport the water. This approach is the reverse of the standard practices of water management agencies and will result in unequal treatment of transferred water and normal deliveries.

The determination of unused capacity should be made on the basis of the portion of the system physically required for wheeling. For example, consider an agency with two distinguishable supply sources of equal capacity, one operating at full capacity and the other operating at 50 percent capacity. It makes little sense to require the owner of the overall system to wheel water through the fully utilized portion of its system because, on average, the system has 25 percent unused capacity. Such a policy would interfere with the operations of the agency to the detriment of its other customers either through reduced availability of water or increased costs.

The requirement in the Model Act that wheeling charges recover costs only for the portion of the system used in the transaction will often require that the public agency establish different pricing structures for the use of its storage and transportation system depending on whether the water moving through the system is a normal water delivery or transferred water. Such differences in pricing are inconsistent with the "equal treatment" principle and may result in significant financial inequities and in market signals that distort decisions to purchase water in the emerging water market.

Like many other water agencies, Metropolitan recovers the fixed costs of its storage and transportation system on a uniform basis regardless of where

\textsuperscript{15} See CA. DEP’T OF WATER RESOURCE, supra note 3.

\textsuperscript{16} CAL. WATER CODE § 1810(d) (West 1996).

water is actually delivered in the system. Such a "postage stamp" rate reflects the fact that the entire system is operated in an integrated manner to provide blended water and reliability for all water users relying on the system. Because it is virtually impossible to determine which specific costs are associated with particular deliveries, the system is priced on a postage stamp basis for all Metropolitan’s normal deliveries.\textsuperscript{18} Under the "equal treatment" principle, Metropolitan has proposed to treat wheeled water the same, charging a uniform rate for wheeling on a postage stamp basis.\textsuperscript{19}

The Model Act would apparently prohibit such an approach and require a fundamentally different pricing structure for the use of the system for transferred water as compared to normal deliveries. Depending upon the costs allocated to different portions of the system and the specifics of a transfer proposal, the approach of the Model Act could result in different costs (both higher or lower) to use the system for transferred water than for normal deliveries. As a matter of fairness, this approach may result in significant cost-shifting among water users and will likely undermine the long-term sustainability of a marketing approach.\textsuperscript{20}

No less importantly, by artificially shifting how the costs of the storage and transportation system are recovered, the Model Act encourages price signals that will distort market activities. Because the capital costs of the storage and transportation system are fixed and unavoidable, pricing signals for their use should not be allowed to distort activity in the commodity market for water. Yet the Model Act would lead to different wheeling charges for different types of water marketing transactions. Such differential wheeling charges have little benefit since wheeling can occur only in unused (or excess) capacity, the costs of which are unavoidable.

\textsuperscript{18} An appropriate pricing structure for recovering fixed, unavoidable costs may vary depending upon the physical characteristics of the storage and transportation system. For example, the State Water Project (SWP) is a highly linear system where contractors further downstream pay different fixed charges because it is relatively easy to identify an acceptable basis for differential charges. Similarly, wheeling charges for noncontractors using the SWP system have varied based on how much of the system was utilized to wheel water. In contrast, a system like Metropolitan’s is highly nonlinear with customers dispersed over 5,200 square miles of service area and a uniform or "postage stamp" approach has been historically viewed as more equitable.

\textsuperscript{19} Under Metropolitan’s recently adopted wheeling principles, the estimated price for wheeling service for the 1996/97 fiscal year will be $262 per acre-foot. This charge will allow recovery for all transmission costs and unavoidable storage and supply costs associated with utilizing Metropolitan’s facilities. The charge will be applied on a uniform basis and is identical to the implicit charge for use of the system for Metropolitan’s normal deliveries. Metropolitan will investigate alternative means of recovering fixed costs in order to reduce the incremental costs of wheeled water. See Metropolitan Letter, supra note 6.

\textsuperscript{20} An analysis of the impacts of cost-shifting if unavoidable costs are not included in the wheeling rate shows that a 100,000 acre-feet transfer would result in a cost-shifting of approximately $9 per acre-foot to nonparticipating member agencies of Metropolitan. See Metropolitan Letter, supra note 6, at Exhibit B, Attachment 1, p. 16.
However, differential wheeling charges can inappropriately influence market decisions by encouraging transfers to occur where wheeling charges are artificially lower, even if the economic and social costs of the water transfer may be higher in this geographic region than in others. All of the above concerns can be remedied by simply allowing the public agency to use the same pricing structure for use of the system to wheel water and for normal water deliveries.

The water quality provisions in Section 903(b) of the Model Act allow for substantial degradation of the quality of water delivered to other customers as the direct result of wheeling transferred water. This could substantially increase the costs of non-market participants in treating water to meet drinking water standards and may impair the effectiveness of programs to reclaim and reuse water and to promote conjunctive water management. Water quality impacts are generally of equal or greater concern than reliability issues to local water managers and the possibility of water marketing transactions degrading water quality will be the source of substantial opposition to the evolving market.

The Model Act wheeling provisions could also undermine the financial viability of water management programs that are of regional or statewide importance. To promote reclamation and reuse of water, implementation of urban BMPs, and other desirable programs, some agencies, including Metropolitan, include an assessment in their water charges to subsidize these activities. Absent such financial assistance, many of these programs would not be economically viable. Apparently, the intent of the Model Act is to exclude such costs from recovery as a part of a wheeling charge. Such an approach would either undermine the financial viability of desirable water management programs or require that the costs of such programs be disproportionately shifted to other members or customers as others continue to develop alternative supplies free of these charges. As a result, the Model Act, in attempting to promote water markets, could harm other equally important water management programs. Once again, allowing for equal treatment so that all parties using the system pay a proportionate share of the costs of these subsidies would eliminate this potential problem.

Finally, the Model Act wheeling provisions substantially and unnecessarily eliminate the discretion of existing public agency owners to operate their systems for the benefit of their customers as a whole. In the past, water marketing legislation has generated bitter disputes regarding the ability of individual water users to sell water with minimal or no oversight exercised by the local public agencies that developed the supply. Legislation introduced by Assemblyman Richard Katz in 1992 (AB 2090) and subsequent efforts by Assemblyman Dom Cortese in 1993 (AB 97) floundered amidst considerable acrimony over the issue of user-initiated transfers, as market proponents sought to eliminate the discretion of public agencies on the supply side of the market. The Model Act prudently puts aside this contentious issue.

21. **Model Act § 903(b).**
Unfortunately, the Model Act invites the same controversy on the demand side of the market because the wheeling provisions attempt to eliminate the discretion of agencies operating storage and transportation systems required to deliver transferred water to buyers. In most cases, the existing customer of these systems have invested enormous amounts, acting in good faith because they believed that they would receive the benefits of such investments through the flexible operations of the system to deliver affordable, high quality water. It is appropriate for public policy to establish rules that require reasonable actions to promote voluntary market activity on both the seller and buyer sides of the market. However, attempts to eliminate the discretion of public agencies regarding how this mandate is to be fulfilled will not likely be any more successful on the buyer side through wheeling provisions than it was on the seller side through efforts to force user initiated transfers.

VI. Conclusion and Recommendations

The Model Act offers considerable promise for promoting an effective water market as a key component in California’s long-term water policy. Indeed, it is difficult to imagine resolving the major questions in the Bay-Delta watershed as part of the CALFED process without addressing this fundamentally important issue. However, the wheeling provisions of the Model Act in their current form would likely raise more problems than they would resolve. Accordingly, if the Model Act or other legislation progresses through the California legislature, its sponsors and others involved in the debate should consider substantive changes to the wheeling provisions. To assure the development of water marketing policy and legislation in an effective manner with maximum consensus support, the wheeling provisions should be amended consistent with the following general recommendations. The Act should:

- Include assurances that public agencies have the option to adopt "equal treatment" policies under which water moving through the storage and transportation system is treated on an equal basis, whether normal water deliveries or transferred water;
- Maintain the "no harm" provision of existing law to assure that wheeling does not adversely affect the finances, reliability, or water quality of other members or customers of the system;
- Expressly allow determinations of unused capacity on the basis of the portion of the system required to deliver the transferred water;
- Eliminate the existing provisions requiring binding arbitration and imposing the burden of proof on the public agency based on preponderance of the evidence, and
- Allow public agencies reasonable discretion in the operation of their systems so long as they implement policies consistent with the principles identified above to wheel transferred water to those members or customers who wish to purchase water from other sources.