**MWD**

METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

July 28, 1992

To: Board of Directors (Engineering and Operations Committee--Information)  
Board of Directors (Organization and Personnel Committee--Information)

From: General Manager

Subject: Response to the Recommendations Made by R. W. Beck and Associates  
Regarding the Organizational Study of the Operations Division

### Report

In June 1991, your Board authorized a comprehensive organizational review of the Operations Division. The study, done by R. W. Beck and Associates (Beck), was completed in February and an executive summary was distributed to all Board members in March. Copies of the complete study were available on request.

The purpose of the study was to review the organizational structure of the division with an eye toward improved reporting relationships and parity with other divisions at the District as well as identifying areas where procedural improvements may be warranted. The Operations Division, which includes about one-half of all the employees in the District, is responsible for activities that are necessarily broad in terms of tasks performed and are widespread geographically. Because of this size and complexity, a comprehensive study such as the one completed by Beck had been contemplated for a number of years. The results and recommendations made by Beck were the subject of discussions at both the Engineering and Operations Committee and the Organization and Personnel Committee in April.

Following those committee reports and discussions, and management's review and analysis, particularly that of the Chief of Operations and his staff, we carefully considered all 68 of the recommendations conveyed in the study. A few of those recommendations dealt with a substantial reorganization of the top management of the District and will be addressed later under a program to develop a strategic plan for the District. This letter reports to you my response to the organization recommendations by Beck, as well as some of the other more important recommendations that deal directly with maintenance management systems in the Operations Division.

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Attached to this letter is a summary of all recommendations made by Beck and a brief response to each of those recommendations. Also attached is an organizational chart to which reference is made in some of the responses. This chart should be regarded as an interim proposal and subject to change when the District's strategic plan is completed. It is important to note that none of the recommendations to be implemented immediately would inhibit changes that may be recommended later following the development of the strategic plan.

Two major recommendations made by the consultants were that the Chief of Operations report directly to the General Manager and that the Operations Division be modified to become four distinct divisions. As you will see in the attachment, neither of these recommendations are favored by management at this time. It should be noted that the Chief of Operations, as do all Division Heads, has the opportunity to work directly with me on issues requiring my attention. Since the District is in the beginning stages of developing a strategic plan that will provide direction regarding new management structures that may be appropriate in order to meet the mission statement formulated by your Board, dividing the Division is not being recommended at this time. Consideration of further changes in the Operations Division could result from the strategic planning effort.

It is my intention to restructure the Operations Division internally in order to accomplish the streamlining recommended by the consultant. Rather than create four new divisions from the existing division, I will implement an approach that more easily satisfies the reporting relationships recommended by Beck. Specifically, the Operations Division will recognize the regional managers as a distinct management level responsible for areas generally identified by Beck as divisions, and similar to the major branches that already exist in the Division. These new regions will be known as the Western, Eastern, Desert, and Maintenance Services Regions. Each of the four regions corresponds roughly to the four-division alignment suggested by Beck. Beneath these regions are 14 branches, the largest of which includes 116 people and the smallest, 24 people. Salary changes are neither recommended nor contemplated as a result of these changes. Rather, only the reporting structure of some managers will change to improve communication and supervisory control. These changes will also align the Operations Division subdivisions (branches and

sections) with the subdivisions of other divisions. This option is discussed in response 3.2 on page one of the attachment and shown in the proposed organization chart.

Another series of recommendations in the Beck Report was related to the need for improved maintenance management procedures. There was agreement by the consultants that current maintenance practices seem appropriate, but are not well-documented. They also recommended that preventive maintenance should not be allowed to be deferred for the sake of new construction.

As discussed in the attachment, all of these issues are being addressed. At the time the Beck review was under way, the Operations Division was diligently pursuing the development of a maintenance management system (MMS) for the water treatment plants with the intent to expand it to incorporate the distribution and aqueduct systems. Funds for a consultant have been approved in the 1992-93 budget to assist in the development of this maintenance management system; managers with similar responsibilities now meet regularly to discuss maintenance problems and solutions; exception reports will become part of the maintenance management system; and a consultant will be hired to design a labor accounting system to better track maintenance costs. Additionally, the reorganization discussed earlier will help keep maintenance and construction activities separated.

The implementation of many of the consultant's recommendations, as outlined in the attachment and in this letter, will significantly improve the performance of the Division's many functions.

#### Board Committee Assignments

This letter was referred for information to:

The Engineering and Operations Committee because of its jurisdiction to study, advise, and make recommendations with regard to the operation, protection, and maintenance of the plants and facilities required for the production, exchange, sale, storage, treatment, and delivery of water and power, and for the storage and treatment of water; and for the distribution of electrical energy to the aqueduct pumping plants, pursuant to Administrative Code Section 2431(c); and

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The Organizational and Personnel Committee because of its jurisdiction with regard to the periodic independent reviews and studies of the organization, the classifications of positions, job duties, salaries, and salary ranges; and the terms and conditions of employment of all consultants, advisors, and special counsel, pursuant to Administrative Code Section 2471(b) and (g).

Recommendation

For information only.

  
Carl Boronkay

JWM/sjm

Attachment

## BECK STUDY

### SUMMARY OF RECOMMENDATIONS AND RESPONSES

The numbering sequence and heavy print identifies the recommendation from the Beck Study which is then followed by a response.

#### ORGANIZATION

**3.1 Change the reporting relationship of the Chief of Operations to directly report to the General Manager.**

The District is in the process of developing a strategic plan which will be instrumental in guiding future activities and in setting the management structure necessary to meet the future goals and objectives. It is therefore proposed that the reporting relationship of the Chief of Operations not be changed at this time.

**3.2 The structure of the Operations Division of MWD should be modified to have four divisions reporting to the Chief of Operations:**

- . Desert Division
- . Treatment and Distribution Division
- . Services Division
- . Systems Operations Division

It is important that the operation and maintenance of the District's water and power systems be managed in a closely coordinated manner with standard practices being applicable across a wide geographical and functional area. This can best be achieved at this time by retaining single Division status. However, it is proposed that the organizational structure of the Operations Division be changed by the creation of a Regional Management Level between Division and Branch, the elevation of field sections to branch status and by combining certain administrative, operational and technical sections into branches. (See attached proposed organizational chart.) This organizational structure will be evaluated over the next year to see if it needs any refinements to meet the objectives of the strategic plan being developed.

**3.3 Three staff units should also be formed from existing resources.**

- . Security and Preparedness Branch**
- . Operations Services Branch**
- . Special Projects Branch.**

The Security and Preparedness Branch, as proposed, does not measure up to branch-level responsibilities. The Operations Services Branch is discussed in response to Recommendation No. 3.14. Also, the Special Projects Branch, as proposed, does not measure up to branch-level responsibilities. Thus, it is proposed that no change occur in these areas.

**3.4 A Desert Division should be formed, essentially identical to the current Desert Branch.**

It is essential that the operation of the Colorado River Aqueduct System be coordinated with other District resource and reservoir operations and that maintenance be established with the same standards applicable throughout all District systems. This can best be achieved by keeping the Colorado River Aqueduct system within the Operations Division. However, it is proposed that a new Operation Division organizational structure be established whereby there would be a "Desert Region" with responsibility over the Colorado River Aqueduct and related systems.

**3.5 The Director of the Desert Division should be located at the Gene Camp.**

It is important that there be a management representative of the field forces who operate and maintain the Colorado River Aqueduct systems immediately available to participate with the Chief of Operations in making decisions that affect the operation of the systems and the employees. This representative is the "Regional Operations Manager" - Desert Region. Because of direct access to headquarters staff, this manager is able to handle problems for the field organization and accomplish necessary tasks in an expeditious manner. The person occupying this regional level position also provides an oversight capability to evaluate the performance of the field staffs. Locating this Regional Operations Manager at Gene Headquarters would reduce the effectiveness of this position, and would likely interfere with the local supervisors' decision making that is essential for efficient operations and maintenance of the field facilities.

- 3.6 A Treatment and Distribution Division should be formed from the resources of the Eastern and Western Branches. The six Area Superintendents currently in the Eastern and Western Branches should report directly to the Treatment and Distribution Division Director.**

To reorganize the field operation and maintenance responsibilities of the District along functional lines as recommended by Beck would be to return to an organizational framework that existed prior to 1976. Because of inefficiencies attributable to overlapping responsibilities, that organizational structure was changed to one involving geographic areas of responsibilities which has worked very well. The organizational structure now proposed in 3.2 above retains the well-working features of geographic areas and incorporates certain organizational responsibilities along functional lines. The treatment and distribution responsibilities would all fall under the jurisdiction of an Assistant Chief of Operations.

- 3.7 The duties of the two Assistant Area Superintendents in each section should be more clearly defined as Operations Section Manager for one and Maintenance Section Manager for the other. The practice of "manpower balancing," or seeking to artificially balance the size of the organizations reporting to the two positions, should cease.**

The current practice of having one Assistant Area Superintendent primarily responsible for operations with minor responsibilities for maintenance and the other primarily responsible for maintenance with some operational responsibilities has proven to be a very effective way of providing cross-training for the Assistants, making them better able to fill in for each other and better qualified for Superintendent positions. The Area Superintendents are in the best position to determine the appropriate mix of functions for the Assistant Area Superintendents.

- 3.8 Construction-related personnel should be transferred out of the operating sections and into a new Construction organization.**

It is agreed that the District field construction forces should be separated from the normal operation and field maintenance organizations. A separate construction and heavy equipment branch is being proposed in the organizational structure identified under item 3.2.

- 3.9 The Plant Laboratories should be removed organizationally from the treatment plants and transferred to the Water Quality Division.**

The staff of the Plant Laboratories are an integral and important part of the team that guides the operations of filtration plants. It is also important that all regular full-time employees at the plant administratively report to the plant supervision. The Plant Laboratories are functionally guided by standards established by the Water Quality Division. The present arrangement is working well and should not be changed.

- 3.10 The Project Management Advisory Section should report to the Director of the Treatment and Distribution Division.**

The Project Management Advisory Section provides advisory service to the entire Operations Division including maintenance activities, fabrication, replacement schedules and major rehabilitations. This function therefore should remain aligned within the Maintenance Services organization which serves the entire Division.

- 3.11 A Services Division should be formed from the current Maintenance Branch and the construction units removed from the Eastern and Western Branches.**

Under the organizational structure proposed in 3.2, a Maintenance Services organization will be established at the "Regional Level" which includes a Construction Branch that is formed from construction units in the Eastern and Western Branches.

- 3.12 A Systems Operations Division should be formed from the current Control Systems Branch, the Operations Planning Section, and the Systems Operation Section.**

A Systems Operations Branch is being formed which will include three primary functions: (1) Operations Planning, (2) System Operations, and (3) Water Accounting. The Control Systems Branch should remain a separate branch as its functions are related to the design and maintenance of the District's supervisory control and data acquisition (SCADA) systems. That Branch's only relationship with Systems Operation occurs when establishing control strategies for design of new SCADA systems or modification of existing systems.



- 3.13 A Security and Preparedness Section should be formed from the Protective Services Section and the emergency preparedness function, and should report to the Chief of Operations in a staff capacity. Investigative and other functions not related to Operations should be removed from Protective Services and transferred to the Personnel Division.**

Protective Services and Emergency Preparedness are currently handled as staff sections reporting to an Assistant Chief of Operations. These two activities are closely aligned in many areas of responsibility and may be considered for branch status at a future date. The investigative responsibilities of the Protective Services Section are currently under the direction of the Director of Personnel or the General Counsel.

- 3.14 The Operations Services Branch should report to the Chief of Operations in a staff capacity. No change in composition is recommended.**

The primary functions of this branch, as noted by the consultants, are training and the management of administrative functions such as budgeting, computer support processing and related functions. During the budget process, this position acts as staff to the Chief of Operations. However, during the remainder of the year, it is a line position supervising training and other activities that are not considered staff functions. Therefore, the structure of this organization is not being changed at this time.

- 3.15 A new Special Projects Branch should be formed, reporting as staff to the Chief of Operations.**

Several years ago, a position of Special Project Administrator was created in the Operations Division for the express purposes of handling service connection agreements between the District and its member agencies and for monitoring construction activities to keep agencies apprised of schedules and costs. This position reports to an Assistant Chief of Operations in a staff capacity. When other special projects require attention, an assignment is made to other staff within the Operations Division who in turn, may solicit help from the Engineering, Water Quality or other appropriate Division personnel. The present practice is working well; however, this recommendation will be further considered during development of the strategic plan.

## STAFFING LEVELS

### **4.1 Develop an integrated structure of goals and objectives, from Division management on down.**

Each year goals and objectives are developed by the Operations Division and submitted as part of the budget process. The mission statement, recently established by the Board of Directors, places distinct responsibilities on the Operations Division which must now be defined in detail. This will be done in conjunction with the development of the District's strategic plan and in preparation for the 1993-94 budget.

### **4.2 Develop a documented and accepted structure of priorities.**

We believe the priorities exist in the division, but, as Beck suggests, only in an informal manner. A distinct part of the development of the strategic plan will be establishing a structure of priorities for the Operations Division.

### **4.3 Develop and implement an effective work planning system.**

This recommendation includes individual recommendations made elsewhere in the report such as documenting procedures and improving the accuracy of reporting of time expenditure. As will be noted later, work has already begun to address these recommendations.

### **4.4 Make the integrity of data a stated goal and a high priority.**

As procedures become more formalized, emphasis is being placed on the importance of correct data input. The new information systems being developed by the District include user training programs geared toward instilling the need for accuracy in the minds of all users.

**4.5 Establish the ownership of the fleet and of the Fleet Tracker system.**

In April 1990 the responsibility for the administration of the District's automotive fleet was transferred from the Operations Division to the Administrative Services Division in an effort to reduce the overall responsibilities of the Operations Division. Responsibility for the maintenance of the fleet remained with the Operations Division. This arrangement is working adequately but should be re-evaluated as part of strategic plan developments. FleetTracker, which is a computer-based system used to measure the costs of fleet maintenance and "flag" vehicles or vehicle sub-units for replacement, has been overwhelmed. Replacement programs are being considered and ownership of that new system will be well-defined.

**4.6 Assessment of performance against budget should be a management priority.**

Labor reporting and performance assessment will be incorporated as part of the "Maintenance Management System" (MMS) currently being implemented. A consultant item of \$40,000 is included in the 92-93 budget to design an appropriate accounting method to achieve this goal.

**SYSTEM MAINTENANCE**

**5.1 First level supervisors with maintenance and scheduling responsibilities should be provided with Personal Computers. The Project Management Advisory Section should be responsible for selecting appropriate computer configurations and standardized commercially available preventive maintenance software.**

This will be done as part of the "Maintenance Management System" (MMS).

**5.2 The Project Management Advisory Section should provide Maintenance Analysts for the field supervisors to assist them in setting up the preventive maintenance software, planning and compiling inventories, procedures, service levels, time standards, and formatted reports. These Maintenance Analysts should report to the Area Superintendents.**

Because of the 1992-93 budget constraints, the additional positions requested by the Project Management Advisory Section were not included in the budget. However,

\$150,000 was provided in the budget for a consultant to assist in the development of the Maintenance Management System. By utilizing a consultant for certain efforts, District technical staff can be available to assist field supervisors in setting up the maintenance program.

- 5.3 Management should encourage supervisors with similar responsibilities in the various sections to form maintenance committees to periodically review maintenance procedures, frequencies, time standards, and experience.**

Area Superintendents have regular meetings to discuss issues of common interest. As a part of the MMS, Project Management Advisory Section staff is coordinating these items with local maintenance supervisors who, in conjunction with maintenance engineers, establish the maintenance procedures and frequencies. Regular meetings including maintenance supervisors from different areas will be incorporated as part of the Maintenance Management System. These regular meetings accompanied by written procedures that may result from these meetings should result in improved procedures.

- 5.4 The Maintenance Analysts should help supervisors develop exception reports indicating equipment not maintained on schedule. These exception reports should go to the Area Superintendents with summaries to Division Management.**

This is being incorporated in the Maintenance Management System.

- 5.5 The Project Management Advisory Section should be provided with sufficient additional staff to provide the technical support and coordination required by the field supervisors.**

Positions requested were cut from the 1992-93 budget because of financial constraints. However, the use of a consultant for a portion of the maintenance management system development will allow existing staff to provide more of the technical support needed by field supervisors.

- 5.6 Preventive maintenance should not be allowed to be deferred for the sake of new construction. Management must be willing to either add staff or seek short term contract labor to handle the overloads.**

The proposed organizational change for the Operations Division places the groups primarily responsible for District force construction in a separate branch. This change reduces the inherent problem of foregoing

maintenance activities in favor of high priority construction projects. Also, the use of outside labor contracts has proven to be very successful for the Haz-Mat containment program and will continue as a standard practice for high priority construction activities.

- 5.7 Discrete work order numbers should be established to capture and isolate maintenance costs and man-hours by type of facility, location, and crew. Stricter control over time charging should be implemented.**

The establishment of a labor accounting system is provided for in the 92-93 budget with a \$40,000 consultant item.

- 5.8 The Project Management Advisory Section should commence planning for a long-term unified maintenance management program.**

This is currently being incorporated in the Maintenance Management System.

#### **POWER OPERATIONS**

- 6.1 Organizationally separate the power operational responsibilities from the planning responsibilities. This restructure should be conducted with a view toward the implementation of the current program to automate the control and data collection of the water and electric systems.**

In March 1990, the Power Operations Section of the Operations Division was transferred to the Resources Division to provide for better coordination of Power Contract Planning and Power Operations. This arrangement will be re-evaluated during the development of the strategic plan.

- 6.2 The Systems Operations Section should be elevated within the Division structure to a position commensurate with its responsibilities.**

The proposed organizational changes for the Operations Division includes the establishment of a "System Operations Branch" which would report to an Assistant Chief of Operations but would be directly accessible by the Chief of Operations and other high level management staff.

- 6.3 Standards should be developed directing a common approach to the various levels of maintenance at the small hydro stations.**

The hydro-electric task force, formed for the original construction of the District's hydro-electric plants, has been re-established for the express purpose of developing consistent standards for the maintenance of hydro-electric plants. These standards will then be incorporated into the developing Maintenance Management System.

- 6.4 A regular long-range planning program for small hydro operations should be instituted. We believe that a planning horizon of at least five years is appropriate.**

It was recognized when the District program to develop hydro-electric generating plants on its distribution system began that the operations of the plants for the purposes of generating electricity would be secondary to the operation of the distribution system to meet water demands. When operational options are available, the system is operated to maximize electrical generation. A program for the development of long-range operating forecasts will be considered as part of our strategic plan.

#### **TRIPLE-T PROGRAM**

- 7.1 The criteria for a qualifying Triple-T event should be more rigorously defined. The Area Superintendent should be responsible for presenting the findings and corresponding remedial and/or training action plans to the other Area Superintendents.**
- 7.2 Ownership of the Triple-T process should be assigned to the Area Superintendents.**

The Triple-T program is a process whereby operating mishaps can be evaluated by a team in order to avoid them in the future. During Beck's examination, no such mishaps occurred and, thus, there were no Triple-T meetings called. The recommendation is based on a theoretical understanding of the program. In practice, the process is "owned" by the Area Superintendents, as recommended, and it works very well in describing an incident and determining procedures to avoid such incidents in the future. No change is contemplated in this process.

## FIRST RESPONDERS

- 8.1 The District should modify its planned four-person off-shift crew complement to include a water treatment plant certified operator as Shift Supervisor with responsibility for overseeing all activities (operations and maintenance) on the site during his watch.

During the establishment of the four-person shifts at the treatment plants as determined necessary to meet the "First Responder" regulations, there were numerous discussions about the need for a "shift supervisor" to oversee the maintenance activities and the plant operations. Some efficiencies might be generated by having a shift supervisor; however, because of constraints on staffing, alternative methods of supervising the shift activities have been developed. These include having the day shift maintenance supervisor outline the work to be performed by the off-shift maintenance personnel and then verifying work performance.

## SUPERVISORY OVERTIME

- 9.1 Management should clearly state the guidelines for logging, accumulating, and taking compensatory overtime.
- 9.2 Inconsistencies in the administration of overtime should be eliminated.
- 9.3 Overtime credit accumulated by supervisors should be reported to both the supervisor and area management on a monthly basis.
- 9.4 Overtime credit should not be lost to the supervisor because of failure of individual managers to approve or schedule the compensatory time off.
- 9.5 In order to prevent the accumulation of excessive overtime credits and to encourage supervisors to schedule time wisely, overtime credits should not be allowed to accumulate for more than a one- or two-year period.

The issue of supervisory overtime is currently being discussed within the structure of collective bargaining. The recommendation above dealing with inconsistencies in the administration of overtime has been addressed and the inconsistencies will be eliminated. The remaining recommendations are directly related to current negotiations or are administrative matters which are currently being addressed.

## TRAINING

- 10.1 Management should clearly state its commitment to training. The management team should develop a set of training goals and objectives which are both implementable and measurable.**

Skill and regulatory training is a significant part of employee development in the Operations Division. A wide variety of other training is offered by the District on an elective basis and the District's tuition reimbursement program provides employees with broad opportunities to take advantage of programs offered by local colleges and other training institutions. In conjunction with 10.2 below, goals and objectives will be developed to more clearly state the division's and the District's interest in training.

- 10.2 Division management should develop a curriculum of training for the various classifications including technical and non-technical subjects which meet not only legal and regulatory requirements but are designed to improve the capabilities of the employees and their commitment to the District.**

The Operations Division has a training section whose primary responsibility is to identify regulatory and technical training requirements for division personnel and to develop curriculum for meeting the requirements. These programs are being continually updated to keep abreast with current regulations. The District's elective training programs provide opportunities for employees to improve their skill levels in areas such as personal relations, public speaking, and others which may not be directly related to job functions. The training section will be assigned the task of developing a curriculum that will provide employees with some direction regarding the need for training as well as opportunities to take advantage of non-required training.

- 10.3 To the extent possible training should be conducted by Division personnel.**

Operations Technical Services Section staff presently conducts all technical skill level training and regulatory training is provided by consultants or Environmental Compliance Division staff. The development of in-house trainers and programs to meet some regulatory requirements is currently being considered.



10.4 Coordination of all training of Operations Division personnel should be centralized in the Operations Technical Services Section. Outside divisions should arrange for training of Operations Division personnel through the Operations Technical Services Section.

10.5 The Operations Technical Services Section should be responsible for maintaining the training records of Operations Division personnel.

By memorandum dated May 19, 1992, all divisions were requested to coordinate training activities, including record-keeping, for Operations Division personnel through the Operations Technical Services Section.

10.6 Time spent training should be captured on appropriate work orders so that it can be isolated and reported to Division management.

A series of training work orders has been established in the 1992-93 fiscal year budget.

10.7 Division management should work with the Personnel Division to minimize the problems related to notification of field personnel about classes being offered during working hours which work units available within the Division are unable to accommodate.

Discussions have begun regarding how supervisors can best accommodate their employees with respect to personal improvement courses. Arrangements are being made to offer some courses at the field locations.

10.8 Staffing in the Operations Technical Services Section should be increased to accomplish the above recommendations.

No staffing increase was provided in the 1992-93 budget. Some help will be provided through an internal transfer. The need for additional positions will be evaluated at part of the 1993/94 budget process.

- 10.9 Personnel from various field disciplines should be temporarily assigned to the Operations Technical Services Section to develop training programs and manuals in those areas determined to be necessary.**

Staffing levels at the field sections are not adequate to temporarily assign individuals to the Operations Technical Services Section. However, the 1992-93 budget has provisions to hire a consultant to assist in the development of programs and manuals.

#### **HUMAN RESOURCES**

- 11.1 The District should conduct a Classification Evaluation Study for all management and employee positions.**

It is the long-term plan of the District to conduct a thorough Classification Evaluation Study after completion of the strategic plan.

- 11.2 Management should review supervisory span of control in each section. Where required, merge units with like duties under a single supervisor, or split units where too wide a span of control may have adverse impacts on job performance or safety.**

As a part of the District-wide organizational evaluation and development of the strategic plan, a review of the span of control of each section will be conducted to determine the feasibility of merging sections or segregating activities where potential efficiencies can be identified.

- 11.3 Management should immediately set up a succession management program.**

The District has for many years had the practice of providing opportunities for the existing staff to develop skills that will make them eligible to compete for higher level positions that become available. This provides for a broad range of candidates for consideration to fill management positions. The creation of the four regional level positions recommended earlier will facilitate succession planning and a more formalized succession structure will be evaluated.

## INFORMATION SYSTEMS

- 12.1** There should be explicit participation of Operations Division personnel in identification of information needs, determination of solution specifications and resources deployments, and prioritization of implementation projects.

This is being accomplished through the Phase Zero project and other Information Systems Division (ISD) efforts.

- 12.2** Standards for PC equipment and software should be updated to reflect industry trends toward easy-to-use graphical interfaces that support functional integration of software products from multiple vendors.

This is being addressed by ISD. Also, the Operations Division System Development Unit has been evaluating and implementing various hardware, software and networking products in preparation for providing input to ISD's process.

- 12.3** Procedures for requesting PC equipment and software should be streamlined.

The system currently being used is necessary to meet the justification and approval needs of the District and will be looked at for streamlining. As standardization is achieved through the Phase Zero project, this problem should self-correct.

- 12.4** Information Systems and PC Support staff should visit field locations more frequently to learn firsthand about requirements for information and training. Attention should be focused on assisting staff to use computers for improving quality and productivity.

This is being resolved through the "unfreezing" of one additional staff in the PC support group plus enhanced training in the field. Additionally, the support staff has been relocated to the San Dimas facility where they have improved access to the field staff and computer training is being scheduled at field locations.

- 12.5 The Operations Division should seek out opportunities for gaining major productivity improvements by implementing relatively small information systems projects.**

This recommendation is going to take time to evaluate and implement. It is primarily a staffing problem -- there are only three support people in the entire Division. Most importantly, we need to determine what applications there might be in the field for these small system projects. The Field Applications Committee was formed several years ago, and has successfully developed several small applications for field office use. A process will be established to evaluate other areas of opportunity and, from there, determine the usefulness of devoting severely limited manhours to these areas.

- 12.6 Plant drawings should be maintained in electronic form to facilitate access by the Division and rapid update to reflect engineering changes and new construction.**

This represents a massive effort in terms of time and manhours. The project was suggested two years ago and rejected because of the huge numbers of drawings necessary to cover each plant. We will soon begin a cost/benefit study to determine the usefulness of this recommendation.

In the meantime, current work such as the Colorado River Aqueduct Rehabilitation Project is being translated to an electronic data base for future reference. The major problem is the conversion of historical records rather than incorporating current work in an electronic form.

- 12.7 Use of electronic mail should be expanded through short, intensive training and familiarization sessions.**

The expanded use of electronic mail is a part of the new Information System programs being developed.

- 12.8 The replacement of existing older Supervisory Control and Data Acquisition (SCADA) systems with standardized, vendor-independent software should be given a high priority. Proposed electronic sensors on revenue meters should be seriously considered. Long-range plans for SCADA development should be more broadly communicated and clearly coordinated with other District information systems plans.**

The District has recognized for some time that Supervisory Control and Data Acquisition (SCADA) systems are necessary for more efficient operation. As early as 1958, supervisory and remote control equipment was being installed. That process continues today and has been the

subject of a number of reports over the years. We concur with R. W. Beck and are moving toward a standard application. We also concur that the establishment of these systems is high priority although, under current fiscal restraints, it has been necessary to establish individual priorities for all projects. When the District's financial picture improves, this work will go back on a schedule consistent with Beck's recommendations and the District's needs.

- 12.9 The Division should consider initiating a high-priority project to exploit IS technology to help deal with concern in the field regarding timely communication of new environmental regulations and the redesign of maintenance procedures to ensure compliance.**

The current "Phase Zero" process directed by ISD and the new Incident Reporting System and Material Safety Data Sheets (MSDS) program all address this recommendation. At the completion of "Phase Zero," the Division's needs, with respect to tracking and complying with new regulations, will be reassessed.

- 12.10 Policies relating to equipment and software standards, procurement, user support, and training should be documented and communicated.**

This recommendation was conveyed to the "Phase Zero" consulting team and is being addressed through that project.

#### **IMPACT OF NEW REGULATIONS**

- 13.1 Key Operations Division personnel should be more involved in developing action programs for addressing water quality regulations.**

Communications between Operations and Water Quality staffs have always been excellent. The focus of this recommendation is that, at times, top management from both divisions have not been involved at a level the Beck consultants felt was appropriate. Both divisions have agreed to be more vigilant in maintaining good communications at top levels.

- 13.2 Programs for additional training of Operations Division personnel will be essential to implementing the increasingly complex water quality regulations.**

Work has already begun on improved in-house training and improved record-keeping. Training time has become an important issue in assessing manpower requirements and in scheduling work. Nevertheless, we are looking at a number of programs to better inform the employees of the Operations Division with respect to water quality issues. The first of these will be a series of programs on the Surface Water Treatment Rule. That series, to be offered at all treatment plants, is in the planning stages at this writing.

- 13.3 A Water Quality engineer should be stationed at each of the water treatment plans.**

It has been a long-standing objective of the District to have certain Water Quality Division personnel spend a significant portion of their time at the filtration plants. Staffing constraints have limited our capability to do this. However, through cooperative working relationships between Operations and Water Quality Division personnel and specialized training programs, the District's water quality objectives are consistently being met.

- 13.4 Management should clearly communicate its water quality objectives and define the division of responsibilities between the Water Quality and Operations Divisions to meet these objectives.**

This was done several years ago with the establishment of the "White Paper" defining the division of responsibilities between Water Quality and Operations.

- 13.5 MWD should carefully reassess and possibly accelerate its source development and treatment plant capital programs.**

Treatment plant operation and capacity is the subject of ongoing studies and planned and executed treatment plant enlargements. Current projects include the Skinner, Mills and Jensen treatment plants, the Central Pool Augmentation and construction of a sixth treatment plan, and new treatment strategies such as ozonation. As stated by the consultants, this program is well beyond the scope of their study. The operation and maintenance of our treatment plants is of critical importance, however, and will continue to be closely scrutinized on an on-going basis.

PROPOSED TABLE OF ORGANIZATION  
FISCAL YEAR 1992/93  
OPERATIONS DIVISION

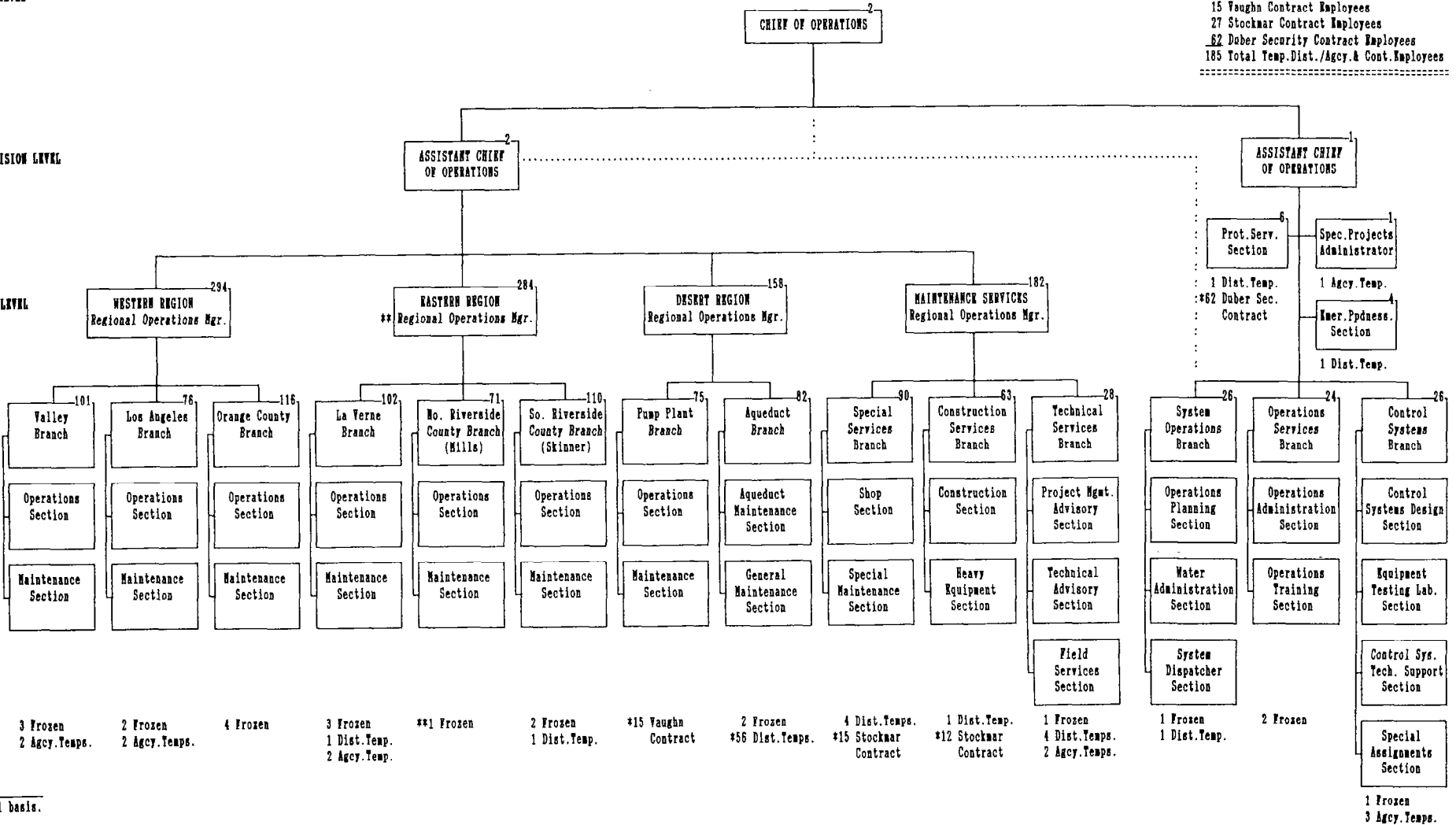
PERSONNEL BUDGET BREAK  
1010 Total Personnel Budget, F.Y. 1992/93  
22 Positions Frozen as of 10/11/91  
988 Total Available Positions, F.Y. 1992/93  
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69 Temporary District Employees  
12 Temporary Agency Employees  
15 Vaughn Contract Employees  
27 Stockmar Contract Employees  
82 Duher Security Contract Employees  
185 Total Temp./Dist./Agcy. & Cont. Employees  
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DIVISION LEVEL

ASST. DIVISION LEVEL

REGIONAL LEVEL

BRANCH LEVEL



\* On-call basis.

Rev. 7/20/92