

AN EVALUATION OF THE  
DELEGATED CONSTRUCTION  
GRANTS PROGRAM  
IN THE STATE OF MONTANA

Prepared for

THE ENVIRONMENTAL PROTECTION AGENCY  
OFFICE OF WATER PROGRAM OPERATIONS

Larry Walker Associates  
October 1980

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INTRODUCTION

This evaluation was conducted for EPA's Office of Water Program Operations as part of a nationwide assessment of the delegated construction grants program. Evaluations, in conjunction with on-site reviews, were made of each of the ten EPA regional offices and of one delegated state within each region. The purposes of the evaluations were:

- 1) To determine the status of delegation in each state and region
- 2) To evaluate the performance of the delegated states
- 3) To evaluate the performance of the EPA regional offices under delegation
- 4) To identify any problems or needs developing under delegation.

After the on-site evaluations were completed, a national report was prepared summarizing the findings of the individual evaluations, discussing the problems and needs identified, and making recommendations as to how these problems and needs should be dealt with.

This particular report represents the results of an on-site evaluation of the State of Montana's administration of the delegated construction grants program. An accompanying report discusses the findings of the on-site evaluation of EPA Region VIII's operation under delegation.

The contractor spent two days in the Montana State Office's (July 16 and 17) interviewing the management staff involved in the grants program. The following individuals were interviewed:

Joe Steiner	Section Head, Construction Grants and Training Section, Water Quality Bureau
Mark Weston	Sanitary Engineer, Construction Grants and Training Section, Water Quality Bureau
Scott Anderson	Sanitary Engineer, Construction Grants and Training Section, Water Quality Bureau

#### STATUS OF DELEGATION

The State of Montana entered into a delegation agreement with EPA Region VIII on July 9, 1979. The agreement called for the gradual assumption of authority by the state of some eighteen tasks over a two year period.

Montana, as of the date of this evaluation, had assumed authority for ten of the eighteen tasks, as indicated in Table 1. Five of the remaining non-delegated tasks will be assumed by the state by approximately September 1980 when the state and Region VIII enter into a revised delegation agreement. Subsequent to that time, only three tasks will remain undelegated; user charge/ICR systems, bid document review, and construction inspections. The latter two functions will continue to be administered by the Corps of Engineers until fiscal year 1982, when the state expects to take over those activities. Upon entering into the revised delegation agreement in about September 1980, the state will begin a one year training period relative to the user charge/ICR systems review. Subsequent to that training period the state will assume full authority for this function.

Table 1  
STATUS OF DELEGABLE FUNCTIONS

Function <sup>a</sup>	Status
D. Preapplication Conferences	Delegated
E. Step 1 Applications	Delegated
F. Step 2 Applications	Delegated
G. Step 3 Applications	Delegated
H. Facility Plans	Delegated
I. Change Orders	Delegated
J. User Charge/ICR Systems	Projected for September 1981
K. Plans and Specifications	Delegated
L. Payment Requests	Projected for September 1980
M. O & M Manuals	Delegated
N. Plans of Operation	Delegated
O. Site Title Opinions	Projected for September 1980
P. Bid Documents	Projected for Fiscal Year 1982
Q. Preconstruction Conferences	Projected for September 1980
P. Construction Inspections	Projected for Fiscal Year 1982
S. Records and Files	Projected for September 1980
T. Public Participation	Delegated
U. Preparation of Federal Grant Offers	Projected for September 1980

<sup>a</sup> The Delegation Agreements contained 3 Appendices (A, B and C) which did not relate to delegated functions. A revised Delegation Agreement, currently in preparation, will identify three additional functions, all to be delegated in September of 1980 when the revised agreement is signed:

Infiltration/Inflow  
Operability Inspections  
Step 4 Applications

Within several months then, Montana will be administering all but three of the delegable functions, two of which have been traditionally administered by the Corps of Engineers. It will be fiscal year 1982 before the state takes over administration of all delegable activities associated with the construction grants program.

#### DESCRIPTION OF THE STATE'S PROGRAM

##### Organization

Within the State of Montana, the construction grants program is administered by the Environmental Science Division of the State Department of Health and Environmental Sciences. The organizational structure for the department is shown in Figure 1. Within the Environmental Sciences Division it is the Construction Grants and Training Section located within the Water Quality Bureau that has prime responsibility for administration of the construction grants program. The organizational structure of the Environmental Sciences Division is shown in Figure 2, the organizational structure of the Water Quality Bureau is shown in Figure 3 and the organizational structure of the Construction Grants and Training Section is shown in Figure 4.

As can be seen from Figure 4, the Construction Grants and Training Section is not further subdivided into organizational units. The primary reason for this is that only eleven employees are located in the section and it would be difficult, given the way the section operates, to further subdivide it organizationally. The section handles almost all of the activities associated with administration of the program. These activities include development of the biennial needs survey,

Figure 1

ORGANIZATIONAL STRUCTURE - DEPARTMENT OF HEALTH AND ENVIRONMENTAL SCIENCES

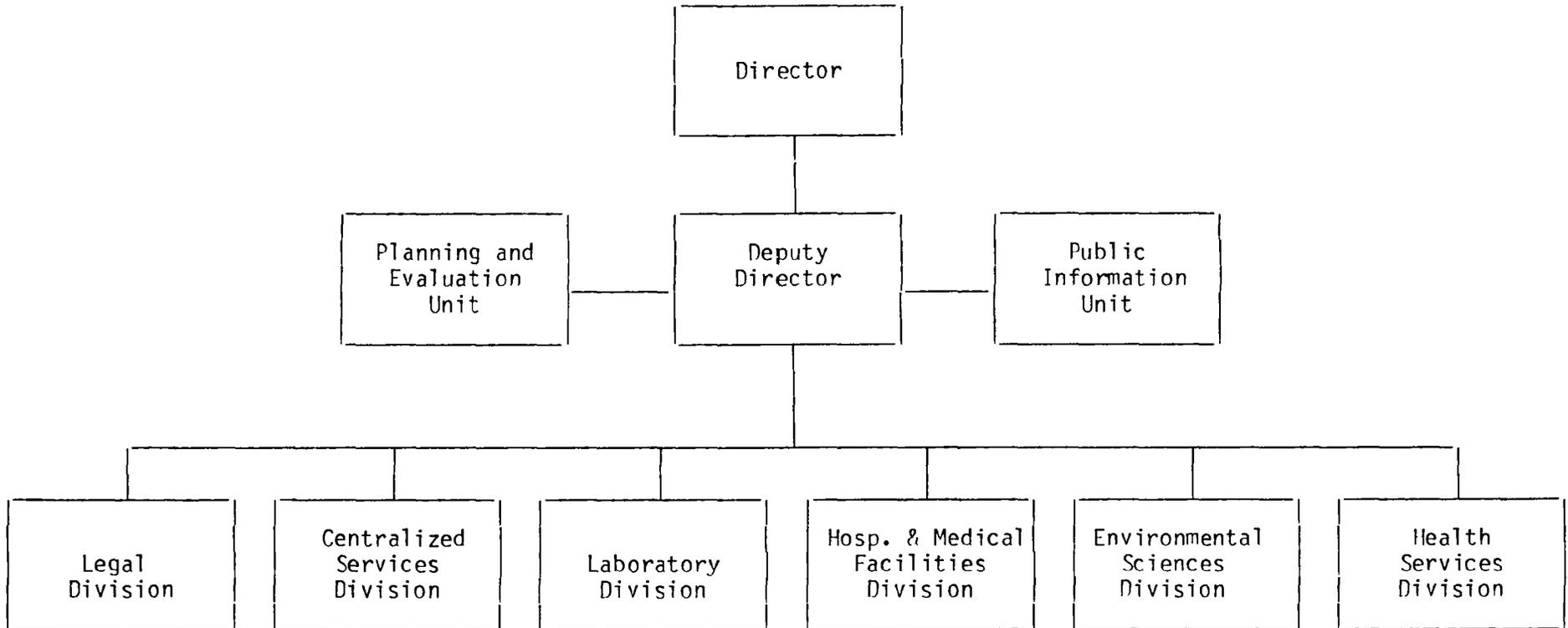


Figure 2

ORGANIZATIONAL STRUCTURE - ENVIRONMENTAL SCIENCES DIVISION

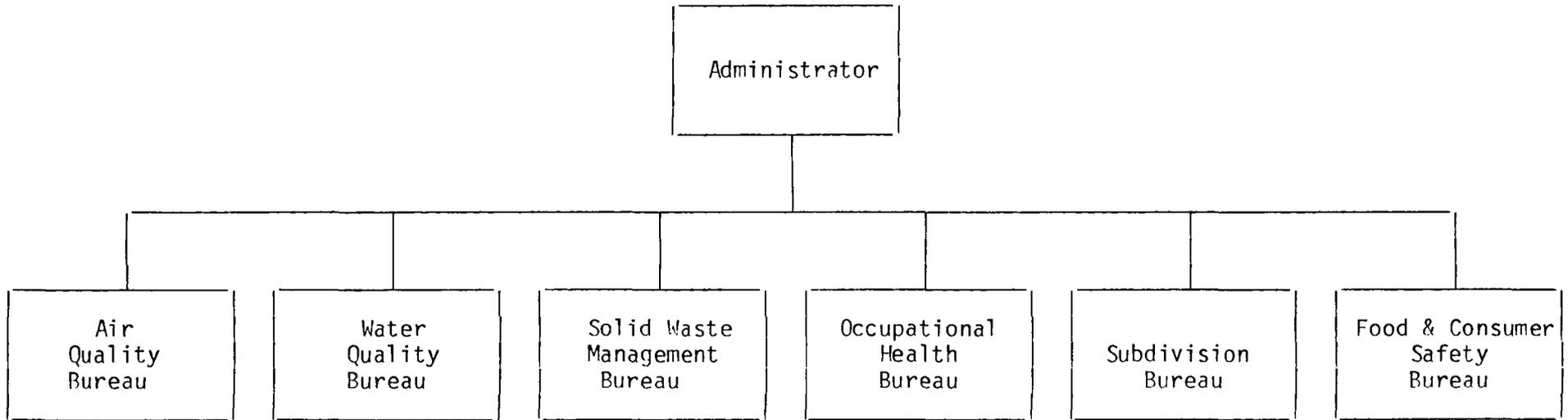


Figure 3

ORGANIZATIONAL STRUCTURE - WATER QUALITY BUREAU

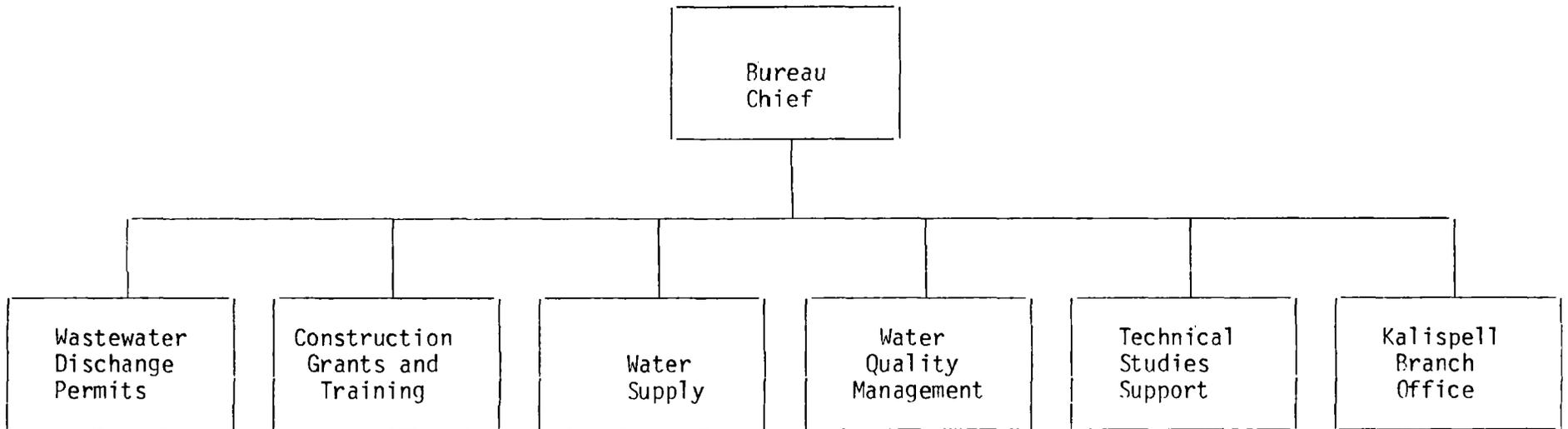
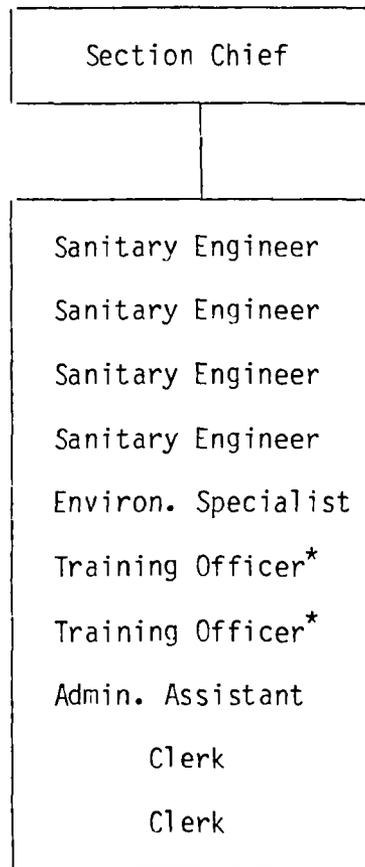


Figure 4

ORGANIZATION/RESOURCES - CONSTRUCTION GRANTS AND TRAINING SECTION



\* 75% of one Training Officer position is funded by the construction grants program (i.e. Section 205(g) funds).

the priority list, the processing of grant applications and related documents, and all of the activities associated with the construction phase of grant projects except those activities currently administered by the Corps of Engineers. In addition the section is responsible for operator certification, operator training, and the performance of annual operation and maintenance inspections.

While the Construction Grants and Training Section has the bulk of the responsibility for administration of the construction grants program, several of the other sections within the Water Quality Bureau also participate in program administration. The Waste Discharge Permits Section provides assistance to the Construction Grants and Training Section upon request where it is desirable to have updated waste discharge requirements during the facilities planning process. The Water Quality Management Section provides twenty-five percent of one person's time to the Construction Grants and Training Section for the purpose of reviewing public participation programs developed by grantees and assisting grantees and the section in public participation. In addition the Water Quality Management Section, upon request, will provide special assistance to the Construction Grants and Training Section, such as in the development of waste load allocations where necessary. Finally the two branch offices participate in administration of the program in an indirect way. Often personnel from the branch offices will attend pre-construction conference's in their respective areas, they will sometimes attend interim construction inspections and pre-application conference's, and, more rarely,

they will review facilities plans for certain special aspects when requested by the Construction Grants and Training Section.

Within the Construction Grants and Training Section, the four sanitary engineers are responsible for almost all aspects of processing individual construction grant projects, from initial placement on the priority list through to completion of construction. These individuals operate in parallel fashion and are each assigned construction grants projects to process, primarily on a geographical basis. The sanitary engineers are responsible for reviewing all aspects of the construction grants project from start to finish.

The Environmental Specialist also has a limited number of construction grants projects to process and, in addition, serves as a substitute for the sanitary engineers when they are on vacation or when a vacancy exists. The environmental specialists also assist the section manager with certain programmatic activities such as development of the needs survey, and the preparation of procedures manuals.

The two training officers are responsible for the review of operation and maintenance manuals, plans of operation, and start up programs, and for the performance of operation and maintenance inspections. In addition they perform certain non-construction grant related activities. These include administering an operator training program, administering an operator certification program for both sewage treatment and water treatment operators, and providing assistance to treatment plant operators with operational problems.

The administrative assistant is responsible for processing interim payments, project tracking, reviewing the federal register for items of

significance relative to the construction grants programs, and various other administrative activities. One of the two clerks is primarily a typist and the other, while also a typist, is responsible for preparation of the federal grant offers.

### Resources

The State of Montana has a staff of 11.5 persons involved in administering the delegated construction grants program. This is approximately double what it was when the delegation agreement was signed. All 11.5 positions are currently filled, with the exception of one clerk position which will be filled when the state takes over preparation of the federal grant offers. Of the 11.5 positions associated with the construction grants program, 9.75 of these are located in the Construction Grants and Training Section. Within the section one training officer position and 25% of the other training officer position are not funded by the construction grants program. This is because the activities of the training officers also involve certification and training of water supply operators and operational assistance, neither of which is considered fundable under Section 205(g).

Outside of the Construction Grants and Training Section, 25% of the public information officer's position within the Water Quality Management Bureau is funded by the construction grants program as is one half of a position within the State Department of Community Affairs. The half position within the Department of Community Affairs is for the purpose of providing demographic review assistance relative to facilities planning. The department developed the state-wide projections used in the section 208 plans and now provides

assistance to the Construction Grants and Training Section when proposed population projections deviate from the Section 208 projections. Finally one man year of effort is funded under contract to the League of Cities and Towns. The Construction Grants and Training Section has contracted with the league for one full time position to provide assistance to small communities. This person helps small communities select qualified engineers and assists them in reviewing engineering contracts. He also helps communities develop public participation programs and assists them in better understanding the grant program requirements and procedures.

The section anticipates that the 11.5 positions currently employed will be adequate to administer all delegable functions associated with the construction grants program, even though several of those functions are not yet delegated and will have to be absorbed by existing staff. The most significant function in terms of manpower not currently performed by the state staff is conduct of interim construction inspections. However, state personnel generally attend pre-construction conferences, interim construction inspections, and final inspections even though those activities are not currently delegated.

Of interest the state is fairly close to utilizing the maximum amount of Section 205(g) funds available to it. The state, being a small state, receives the minimum funding available under Section 205(g), i.e. \$400,000 per year. The state's current budget for the construction grants program, including indirect costs, is \$331,000. Over time, as inflation increases this budget, it can be seen that the State may soon exceed the amount of Section 205(g) funds available.

## Management

The chief of the Construction Grants and Training Section has overall responsibility for managing the delegated program. To assist him in fulfilling this responsibility he utilizes a number of management tools and practices. For example, from each of his four project officers, he receives a monthly activity report that indicates the actions taken on each construction grants project during the previous month. This report also indicates the responsible party for the next activity required as a part of a particular project. Using this report as a base, the section chief meets with each of the project officers several times a month and reviews the status of projects and the competing demands on the project officers and assists them in setting priorities as well as defining output goals for the coming month. Also, the section chief, using the activity reports received from the project officers, puts together an overall program status report on a monthly basis. This report identifies the amount of time spent by the section on the various steps of the construction grants process, it identifies significant actions during the months, and it indicates the current status of the program from a financial standpoint.

Another management tool used by the section chief is the projection of awards on a monthly basis. To develop these projections the section chief meets with the EPA construction grants officer located in the EPA Montana Operations Office and develops projections over the coming months. These projections are updated on a monthly basis. The state then uses these projections as a focal point for their activities in terms of processing individual grant projects. In other words, the state project

engineers attempt to meet the award projections developed jointly by the section chief and the EPA project officer.

Several other management tools utilized include a monthly training session conducted by the EPA Montana Operations Office for the entire state Construction Grants Section staff. At this session the EPA grants personnel train state staff in various aspects of program administration. In addition, EPA uses this forum to update the state staff on new program developments at the federal level.

Relative to communications with outside participants in the construction grants program, the state utilizes several techniques. First, they produce and publish policy statements that are sent out to all consulting engineers practicing in the grants program field. These statements identify for the consultants new policies that are developed by the state that relate to program administration. In addition, when new EPA requirements are developed, the state transmits those new requirements, attached to a generalized information memo, to all consultants in the field. Also the Construction Grants Section Chief meets periodically with consulting engineering organizations and organizations consisting of local officials to update them on construction grant program activities and direction. Usually these sessions are in conjunction with regular meetings of these outside groups.

Another practice employed by the state is to review the federal register on a daily basis to determine whether any new federal program requirements have been issued which will impact on the construction grants program. Prior to instituting this practice, the state found that it was finding out about new federal developments too late to implement them in a reasonable manner.

## Grants Processing Procedures

The first state involvement in an individual project, after adoption of the state priority list, is to attend a pre-application conference if such a conference is desired by the grant applicant. The state basically leaves this choice to the applicant, and the general rule of late is that applicants do not feel the need for a pre-application conference. So, generally the first official state contact on an individual grants project is when the state receives a Step 1 grant application and supporting documents including the plan of study. This package is routed to the project officer responsible for the geographical area in which the project is located and he is totally responsible for processing of the application package. Generally the project officer prepares comments and transmits them back to the grantee. Upon receipt of a revised, completed and acceptable Step 1 application package, the project officer will prepare the state certification and submit it together with the full application package and supporting documents to the EPA Montana Operations Office. EPA currently prepares the federal grant offer and, when everything is prepared, the director of the Montana Operations Office signs the federal grant offer.

Upon receipt of a Step 1 grant, the grantee and its consultant will begin preparing the facilities plan. The state has been attempting to review facilities plans at intermediate steps in the preparation process. The payment schedule contained in the Step 1 grant states that the grantee will not receive 80% of the Step 1 payment without submittal of a draft facilities plan to the state. In addition, the state is attempting to get involved even earlier in the planning

process. The state is attempting to review the project early in the facilities planning process and particularly when the preliminary population projections and the flow projections, as well as the infiltration inflow analysis, have been completed. The state hopes to correct any problems in these areas before the consultant completes the rest of the facilities planning process. The state is also trying to initiate a review of the facilities planning after the consultant has identified the alternatives that he expects to evaluate in detail. Here again the state hopes to review and input into the alternatives to be analyzed before the consultant initiates that analysis. To date however, the state has not instituted formal mechanisms to conduct these intermediate reviews prior to the review of the draft facilities plan.

Again the project officers review all aspects of the proposed facilities plan, though they may seek advice and assistance from other sources on a project by project basis. For example, if the population projection seems inconsistent with the Section 208 plan, the project officer will ask the State Department of Community Affairs for advice. In addition, the project officers periodically will seek advice from the Wastewater Discharge Permits Section or from the training officers relative to operations related problems. Generally the project officers prepare a comment letter on the draft facilities plan and transmit it to the grantee with a copy to the consultant. Often a meeting is held with the grantee and consultant to explain and review the comments.

Subsequently, the grantee will make revisions to the facilities plan and send the revised plan out for comment prior to holding a public hearing. Subsequent to the public hearing, the grantee will make another revision to the facilities plan based on both public

input and state input and transmit the revised document back to the state for final review and comment.

When the final facilities plan is complete and is satisfactory to the project officer, the project officer will draft a preliminary environmental assessment and transmit it to the EPA Operations Office in Helena for review and finalization. About the same time the project officer will request that the grantee submit a Step 2 application package. Subsequent to EPA issuance of the FNSI, the project officer will review and approve the Step 2 application package. Following this approval, the project officer will prepare a certification package and transmit it together with the Step 2 application and supporting documents to the EPA Operations Office for preparation of a federal grant offer and award of the grant.

The state is also involved to an extent with the consultant during the preparation of plans and specifications. The Step 2 grant award generally requires the consultant to submit final design criteria, including the number and sizing of the various treatment plant units, to the state prior to receipt of the 10% payment associated with the Step 2 grant. The state reviews the criteria, using the Ten State Standards as a base, allowing some flexibility in adherence to these standards. On the very largest projects in the state, the project officer will meet with the consultant on a bi-monthly basis to review the status of the plans and specifications and to provide on-going review comments. On the more typical project, the next general involvement of the project officer is when preliminary plans and specifications are received. Generally, these are about 90% complete. Again, the submission of preliminary plans and specifications is prompted by

a Step 2 grant condition which states that the grantee cannot receive more than 90% payment for the Step 2 grant without submission of preliminary plans and specifications. Upon receipt of the preliminary plans and specifications, the project officer transmits two copies to the Corps of Engineers for a biddability/constructability review. The project officer then performs an in-depth review of the plans and specifications. The project officer's review is documented in a plans and specifications review report. This report, contrary to taking the checklist approach to the review of plans and specifications, identifies general goals for the project officer's review in each of five different areas: process design, hydraulic design, operability, safety, and specifications. The project officer's review is supported by a detailed set of design calculations in both the process design area and the hydraulic design area. In other words the project officers develop separate, independent design calculations to check the process and hydraulic design of the proposed facility.

Subsequent to the project officer's review of plans and specifications a comment letter is drafted and transmitted to the grantee with a copy to the consultant, together with the biddability/constructability review comments received from the Corps of Engineers.

Upon receipt and approval of a final set of plans and specifications, the state project officer prepares a state certification and submits the Step 3 grant application package to the EPA Operations Office for preparation of a federal grant offer and signature.

During this same period of time, the project officer will generally receive a preliminary plan of operation and a proposed user charge system. The plan of operation will be reviewed by the project officer

or, if the project officer feels uncomfortable reviewing this document, it will be reviewed by one of the training officers in the section. The proposed user charge system is sent to the Denver office of EPA for review and comment by the user charge specialist located in that office. It should be noted that user charge systems are not yet delegated to the state.

After award of the Step 3 grant and the receipt of bids by the grantee, the state reviews the bid documents to insure that the low bidder has been named and transmits the minority business enterprise (MBE) information in the bid documents to the EPA Denver office for review by the Civil Rights Officer. Under the current status of delegation, EPA issues the approval to award the construction contract after it is satisfied that the contractor has satisfactorily conformed with MBE requirements.

Subsequently, a pre-construction conference is held. The Corps of Engineers schedules this conference and takes responsibility for its conduct, but the state project officer generally attends the conference. If the project officer is unable to attend or the conference is held a considerable distance from the Helena state office, personnel from one of the two branch offices may attend the preconstruction conference.

During construction the Corps of Engineers is responsible for the conduct of interim construction inspections. Again, even though this activity is not delegated to the state, the project officer tries to attend all interim inspections. If the state project officer cannot attend, personnel from one of the branch offices will try to attend these inspections.

Change orders are processed by the project officer during the construction phase of any grant. The Corps of Engineers does not participate in any aspect of the review of change orders.

During the construction phase, the project officer will generally receive the sewer use ordinance, draft and final operation and maintenance manuals, and the final plan of operation. The sewer use ordinance is sent to the EPA Denver office for review by the Region's user charge specialist, since this has not yet been delegated to the state. The operation and maintenance manuals are reviewed by one of the training officers within the Construction Grants and Training Section.

Towards the completion of construction, the project officer together with the training officer will perform an operation and maintenance inspection. Under the proposed new delegation agreement currently being drafted, the Regional EPA office is proposing that a similar inspection be conducted at the 80% completion stage of a project so that any changes necessary to effect treatment plant operability can be instituted under the current construction contract. The state is supportive of this proposal and intends to implement it within the very near future.

The Corps of Engineers conducts final inspections on projects, but again the state project officer or, if appropriate, one of the personnel from the branch offices, will attend the final inspection.

Subsequent to completion of construction, the training officers within the Construction Grants and Training Section will perform annual operation and maintenance inspections of completed grant projects. While outside the scope of the construction grants program, these same personnel will provide operational assistance and advice, as well as training, to field operational personnel to help improve the overall operation of these facilities.

### Processing Times for State Reviews

The state does not have official target goals for its major review activities. Rather, state processing is aimed at meeting the output targets negotiated between the state section chief and his EPA counterpart in the EPA Montana Operations Office. The average processing times for state certification of Step 1, Step 2, and Step 3 applications, along with the processing times for approval of facilities plans and plans and specifications are contained in Table 2. These processing times were obtained from records kept by the state and are for projects approved by the state subsequent to delegation from the EPA Regional Office of these activities.

### ASSESSMENT OF THE STATE'S PERFORMANCE

The state's performance in terms of administering the delegated construction grants program was evaluated in the following areas:

Organizational Structure and Resources

State Management of the Program

Grants Processing Procedures

Quality of State Reviews

Timeliness of State Reviews

The contractor's analysis of the State of Montana's performance in each of these areas is discussed in the following paragraphs.

#### Organizational Structure and Resources

The state's organizational structure as it relates to administration of the grants program appears quite adequate. Though the organization is not broken down within the Construction Grants and Training Section, the contractor feels that the group is small enough (only

Table 2  
STATE REVIEW TIMES

Review/Approval	Processing Time, Days <sup>a</sup>
Step 1 Applications	37(10)
Facility Plans	212(3)
Step 2 Applications <sup>b</sup>	9(15)
Plans and Specifications	113(5)
Step 3 Applications	55(6)
Total Processing time, All Steps	426

<sup>a</sup> Number of projects processed shown in parentheses

<sup>b</sup> Includes Step 2 plus 3 Applications

10 employees) that this does not present a major problem. In fact the contractor feels to break such a small group into subdivisions under the program manager may rob the available resources to too great an extent for the purpose of increased supervision.

While the contractor found the organizational structure adequate within the State of Montana, he does have some concerns about the multiple roles which the chief of the Construction Grants and Training Section has. The section chief has three basic responsibilities: he is responsible for overall management and direction of the construction grants program in the state, he is responsible for direct supervision of ten employees, and he performs certain staff functions personally (including development of the state priority list, development of revised delegation agreements, and development of the annual budget for the section). The contractor believes that the placement of these three responsibilities with the program manager is too much for a single person, even though the Montana program is relatively small. The size of the program in terms of staff or annual expenditures does not take away from the complexity of the program nor its relative magnitude. In fact because of the small size of many of the Montana projects, the state processes as many projects as a state with many times the grant funds.

The contractor would recommend that action be taken to relieve the program manager of several of these responsibilities. One course of action would be to get an assistant section chief to take over direct responsibility for supervising the staff within the section, leaving the section chief himself free to deal with program-wide and major policy issues. An alternative, somewhat short of that though perhaps satisfactory, would

be to relieve one of the personnel within the section from some of his responsibilities and have him act, on a part-time basis, as an assistant to the section chief.

Relative to the resources employed by the State of Montana for administration of the program, it is the contractor's general opinion that the current level of resources appear adequate. If anything however, the contractor believes that the number of resources may be on the light side because of the large number of projects being processed by the state. Each project officer is handling approximately 25 projects. While the state's annual expenditures are low this project level is greater than that usually observed in other states. This is especially true given the fact that the project officers in the State of Montana single handedly perform every review function associated with the processing of individual grant projects.

One other comment relative to resources relates to the eventual state takeover of construction related activities currently performed by the Corps of Engineers. The state's Construction Grants and Training Section chief has indicated that he feels the state can absorb this additional workload since the project officers generally attend interim inspections at the present time. The contractor feels that the area of construction management is an extremely important one and that the state would benefit by having an experienced person on board (experienced in the construction field) to oversee the construction management aspects of the program. The contractor would be concerned if the project officers take on the responsibility for overseeing the construction management program for two reasons. First, the project officers have many different responsibilities and will find it difficult

to devote more than a small percentage of their time to the construction aspects of the program. Also whereas the project officers are gaining increasing experience in the construction grants and sanitary engineering area, they are inexperienced in the complicated construction field. For both of these reasons the contractor feels that it would be advantageous for the state, at the time they take over interim inspections from the Corps of Engineers, to employ a more experienced person in the construction field and charge him with overall responsibility for managing the construction portion of the program. The contractor has no problems with the project engineers, under the general direction and guidance of the construction grants manager, conducting the interim inspections.

#### Management

The contractor was impressed with the management tools employed by the state to assist in the management of this large, complicated program. The contractor found many of the management tools employed by Montana to be more sophisticated than the tools employed by many states with far larger staffs and who have been in the program a considerably longer time. The particular management tools that the contractor found impressive were the monthly project activity reports filled out by the project officers, the monthly reports summarizing activities in the program, the joint state/EPA operations office projection of grant awards on a monthly basis, the enthusiasm exhibited by the state towards meeting those projections, the efforts of the section chief to regularly review project status with the individual project officers and to assist them with establishing priorities and setting output targets, the policy statements issued by the state and the informational memos issued relative to new EPA requirements. The contractor was also impressed

with the fact that the state saw the importance of keeping up with activities at the federal level and routinely reviewed the federal register. Finally, the contractor was impressed with the monthly training sessions initiated by EPA relative to the Montana program and feels that these are exceptional mechanisms for communications between the EPA Operations Office and the state.

Given discussions with the section chief and the array of management tools available to the section chief, the contractor has concluded that the state's program manager appears to be on top of the construction grants program in Montana. He appears to know where the projects are and where the program is and he appears to have a considerable degree of control over the program. Again, given the fact that Montana has a small staff and had limited involvement in the program prior to delegation, this is particularly impressive.

There are some things that the state could do to further improve its management of the program. The contractor believes one area that would assist the state in improving its overall management of the program would be to expand the monthly report and include more information on program related matters and staff performance. More particularly, the contractor suggests that it would be advantageous to record in the monthly report historical outputs over each of the previous twelve months. Also it would be desirable to include future projections of obligations and perhaps other program related parameters, as well as proposed outputs in terms of grant awards etc. Finally, the contractor believes it would be advantageous to include in this report certain qualitative factors relative to staff performance, such as turnaround times on processing of certain key documents.

In terms of expanding the monthly report, the contractor suggests that GICS could be a useful tool in this regard. The Construction Grants Section Chief has indicated that the section has access to a person who can program computers, located in the Water Quality Management Section. The contractor suggests that this person, under the overall direction of the Construction Grants Section Chief, start working with the EPA regional office to investigate the potential that GICS may offer the state in terms of meeting its programming needs. Existing programs available from EPA should be identified as well as the potential for EPA developing additional programs. Finally the state's programmer, again under the direction of the grants staff, should look at the possibility of developing state generated programs to be applied to GICS.

The contractor also believes it would be useful for the state to develop a project tracking system. More particularly the contractor believes the state should develop realistic time schedules for each of its active projects, and particularly those still in the Step 1 and Step 2 phase of the program. Actual progress should then be tracked, by the project officers, against the proposed time schedules. Time schedules should also be updated on a regular basis to keep them current and realistic. A final important aspect of a project tracking system is the development of an attitude whereby the project officers take on the responsibility not only of tracking the progress of a project, but doing whatever is within their power to expedite a project and maintain the time schedule.

Another observation relates to communications. Upon delegation, the natural tendency seems to be for the states and the EPA regional offices to leave communications to chance, i.e. when a particular problem

or issue arises the states and the regions communicate. It is the contractor's belief that good communications is vital to the success of a delegated program and is far too important to leave to chance. Formal mechanisms for communication are needed and a regular monthly meeting between the management staffs, or in the case of Montana perhaps the entire staff, is needed to keep communications open and flowing.

Currently, it is doubtful whether the EPA Operations Office or the state would feel the need for additional communications, given the training sessions and given the fact that there is continual contact between the two agencies on a day-to-day basis on almost every project that is processed. The contractor notes that the primary reason for this existing high level of communications is that the EPA Operations Office is not yet operating in a delegated mode and in fact is reviewing and questioning the state on most of the project approvals submitted to it. In the near future this practice will stop and when it does, the state and the Operations Office will cease day-to-day project-related communications, at least to the extent that they currently exist. At this time the need for regular communications will become more significant. The contractor feels that the monthly training sessions, already expanded to an extent beyond just a pure training session in that the EPA uses this session to update the state on new federal developments, would be a useful mechanism to provide the needed communications. The contractor further suggests that a formalized agenda be developed for the typical monthly meeting. One item regularly scheduled for this meeting should be an update by the EPA Operations Office on current program

activities emanating from EPA as well as new EPA concerns, directions, etc. Likewise at these meetings the state should take an opportunity to update EPA on its program and especially those aspects which may not be readily apparent to EPA. It would also be useful for the state at these meetings to brief EPA on some of the more significant or more controversial projects being processed so that EPA (after they cease to review individual grant packages) can keep up to date on the more important projects. These meetings also provide a good opportunity to review proposed outputs for the coming months and to discuss any problems that may be developing during the course of program administration, either at the federal level or at the state level.

The contractor also believes it would be useful for the state to develop an outside advisory committee to serve as a formal communications mechanism with those outside of the program who are on the other end of the program. The contractor believes that current communications techniques, which are conducted on a one-on-one basis and are related to particular projects and issues, while extremely useful, do not serve the total needs of the program in terms of communications with the "outside world". The contractor notes that a number of states, increasing all the time, are developing advisory committees for this purpose. Quite often these advisory committees are broad in nature and include grantees, consultants and contractors as well as public interest groups and even private citizens and representatives of business. In the case of the State of Montana it appears that because the grantees are often quite small, that the prime state contact is with consultants. Therefore, it might be most appropriate to develop an advisory committee

made up of consulting engineers who are active in the grants program.

Advisory committee meetings should be conducted at least on a quarterly basis and perhaps on a bi-monthly basis. These meetings should offer an opportunity for the advisory committee to identify any problems that it sees with the program or with state administration of the program. It should provide a similar opportunity for the state to identify problems it is encountering in reviewing grant projects or even problems of a broader nature that go beyond just the processing of projects. The state should review major concerns and proposed policies with the advisory group and seek their input on these policies. On some occasions the state may want to seek the guidance of a subcommittee of the advisory committee to assist in the development of particular policies. Finally this forum can be used as a mechanism by the state to keep the "outside world" up-to-date on current program developments. The contractor has also seen a useful practice in some states of keeping detailed minutes of advisory committee meetings and then circulating them widely. If the state were to develop an advisory committee of consulting engineers, the contractor would suggest development of a mailing list that would include not only all of the consulting engineers practicing in the grants program within the state, but also active grantees, contractors and perhaps other interest groups that follow or participate in the program.

Another need identified by the contractor for the State of Montana program is a quality assurance program. The problem in this regard is that the grants program manager, the chief of the Construction Grants and Training Section is the only supervisor for the grants program staff. In other words, all ten employees actively involved in admin-

istration of the program have only one supervisor and all report directly to that supervisor. In previous discussion the contractor pointed out that the section chief, the supervisor, is spread exceptionally thin in that he not only serves as a supervisor but he serves as program manager in addition to performing certain staff related functions. In this situation the supervisor, while providing general guidance to his staff and while keeping close tabs on the overall progress of the staff, does not have time to review the quality of the work of any of the staff, even on a spot check basis. The contractor believes this is a situation which should be modified, as does the EPA Operations Office and the section chief himself. The contractor would suggest two options that may assist in this regard. First if the section chief were to identify either a full-time or part-time assistant section chief, as suggested under the previous heading, the assistant section chief could take on the day-to-day responsibility of supervising the grants staff. In fulfilling that responsibility, the assistant section chief could periodically check the quality of the work of the staff.

The second option would be to utilize the EPA monitoring program for this purpose. EPA under the concept of delegation is already charged with the responsibility for monitoring the performance of delegated states on a regular basis under delegation. The contractor believes it would be possible to go to the EPA staff after they have developed a monitoring agenda for the coming year and seek assistance in reviewing, perhaps in a little more focused manner, the quality of the work being performed by the state staff. It is undoubtedly the purpose of the EPA monitoring effort to do just this, but the contractor believes were the state section chief to become more active in directing at least

the qualitative monitoring aspect of the EPA monitoring effort, the EPA monitoring effort could be more valuable in a quality assurance role. The contractor believes that either of these options would be viable.

#### Grants Processing Procedures

The procedures employed by the State of Montana for processing construction grants projects appear to be very good. The contractor did not see any problems, in terms of overlap of responsibility, unnecessary activities, or lack of coordination. In fact there were a number of things relative to the procedures employed by the state that the contractor found impressive. One of these was the active state involvement during the facilities planning and design review processes. The state does not just review final products from each of these two critical phases of the process. Rather, they review intermediate products along the way. In the case of the facilities planning review, they always review preliminary draft reports and population projections as they are developed. In the case of plans and specifications they review the proposed design criteria and the unit sizing and loading early in the design process and they review preliminary plans and specifications at approximately the 90% completion stage.

In both cases, facilities plan review and design review, the state is moving towards even greater involvement in these processes. The state intends to review the facilities planning process at several other stages and provide one additional intermediate review of plans and specifications. The contractor would encourage the state to move in this direction as rapidly as they can. The contractor

has found that it is far easier and far more efficient to review facilities planning documents and plans and specifications throughout their development, rather than waiting until they are totally developed and then go back and tell the consultant or the grantee that they made a mistake somewhere back in the process and their progress from that time on has been incorrect. The contractor also notes that whenever the state asks the grantee or the consultant to go back and redo something that there is a cost associated with that request in terms of time lost and increased construction costs due to inflation. If these modifications or problems can be caught before the grantee or consultant progresses very much beyond that stage, time delays can be minimum. Also there will be a greater tendency for the products submitted to be satisfactory to the state and therefore the review times should be able to be shortened considerably.

One aspect of the state's grant procedures that this consultant found especially impressive were the plans and specifications review reports. The contractor was impressed with the fact that the state saw the flaws in the more common review guide, the multi-page checklist. Instead the state staff came up with a concept of dividing the review of plans and specifications into five different categories and rather than providing checklists for each, provided general goals for the guidance of the staff in the review of each of these aspects. The contractor was also impressed with the details of the design calculations performed by the state, both relative to the process design and the hydraulic design of treatment facilities. He was also impressed with the fact that treatment plant designs were reviewed specifically from the standpoint of operability by the training offi-

cers located within the Construction Grants and Training Section. One comment the contractor would offer is that whereas the review from the standpoint of process and hydraulic design and specifications appeared to be very thorough and detailed, the review from the operability standpoint appeared to be on the light side. The contractor believes the state should give this area additional attention, especially given the operational expertise that exists within the Construction Grants and Training Section in the form of the training officers.

One other aspect of the state's processing procedures that the contractor found impressive was the philosophy of the state project officers. They appeared to be very concerned about the time aspects of a project and more particularly, their processing time associated with the project. They also seemed to have an ability to keep the various program requirements in balance, or perspective. Relative to this latter item the contractor has found that quite often project reviewers give as much attention to a minor procedural requirement as they do to the most significant requirements associated with grants projects. The contractor has observed that the net result of such an approach is that projects are prolonged almost indefinitely until every fine detail is taken care of. Also this approach tends to cause reviewers to focus on the details and perhaps overlook or not provide sufficient emphasis to the more important aspects of project level review. The Montana staff appeared especially adept at assigning relative importance to the various program requirements. They seemed intent on focusing on the major requirements and areas of review and minimizing the less important areas. One reason why this philosophy may exist is the fact that the project officers are

responsible for the review of the all aspects of individual construction grants projects. This gives them the opportunity to see the entire array of program requirements and attach a sense of value or a sense of importance to each requirement. Where program review is biforcated among many different individuals the individual responsible for a small piece of the program attaches a great deal of importance to that piece. Often this individual is not under the direct control of the project officer and therefore the project officer tends not to question the view of the specialized individual but accepts that view. The net result is often project delays for program requirements that are not that important.

A final aspect of the state grant processing procedures that the contractor was impressed with was the operability review performed by the state's training officers at the 80% and 100% completion stage of the project. The contractor believes that this approach, not observed in other states, will allow the state to identify operability related problems and performance related problems at a time when it is still possible to make modifications in the treatment plant to take care of these problems. Once the project is completed and the contract is closed out, it is extremely time consuming and, in the contractor's view, more costly to correct these problems.

One recommendation that the contractor has relative to the State of Montana program and particularly relative to the processing procedures is that the state seek to assume, at least over the next several years, all delegated functions associated with the construction grants program. The contractor identified a number of functions, such as A/E subagreement review, ATA, MBE, and others that were still

performed by EPA and where the state did not appear to be actively interested in assuming these activities. It is the contractor's feeling that a state performs best when the state feels totally responsible for all activities associated with the program and likewise when the state has total control of all those activities. In such a situation there is only one organization, and generally one individual, who is responsible, and accountable for the program. The contractor has observed that this type of situation causes the state to do a better job in terms of program administration. Likewise the contractor believes that the state should seek eventually, within the next several years, to take over those activities currently performed by the Corps of Engineers.

#### Quality of State Reviews

The contractor reviewed five facilities planning reviews and five plans and specifications reviews performed by the state. In conjunction with facilities planning reviews, the contractor also reviewed the facilities plans associated with those reviews. An initial observation by the contractor is that he felt three of the five facilities plans which were reviewed were not of very good quality. The major problem observed was a rather skimpy alternatives analysis. In the three poorer quality facilities plans, the consulting engineer evaluated a rather narrow range of alternatives, and then without almost any analysis at all, jumped to a recommended solution. The contractor would identify this as a rather serious problem and would further suggest that more active involvement by the state reviewers earlier in the facilities planning process will tend, over time, to significantly reduce this particular problem.

In terms of the state review of the facilities plans, it is the contractor's opinion they are of a very good quality. The reviews appear to be very thorough and they appear to be substantive in nature rather than nitpicky or procedural. It is the contractor's opinion that these reviews will lead to better, more cost effective projects. An example of the types of comments made by the state in the review of facilities plans follow: ineligible portions of collection lines were identified, inadequately low operational staff and operational costs were identified, inadequate flow projections were noted, problems with proposed process designs were identified (gravity thickener found inadequate, separate sludge digestion found unnecessary) and more detailed analysis of the more probable alternatives were requested.

The only concern that the contractor has with the state's review of the facilities plans is that in the case of the skimpy alternatives analysis, while some questioning of the skimpy analysis was made by the staff, in general the recommended alternative was accepted and the review was focused towards the end of ensuring that the recommended alternative was of adequate quality and cost effective. The contractor is aware of the difficulty of asking at a fairly late date for a more detailed analysis of alternatives. The state has also pointed out that they themselves had been a major bottleneck in the review of facilities plans and many of the facilities plans that they are reviewing at the present time have been in their office for more than a year without review. This obviously makes it difficult for the state, after having a facilities plan for more than a year, to go back and ask the grantee to do a more detailed analysis of alternatives. Again the contractor suggests that more active involvement of the state project

reviewers in the facilities planning process will make it easier and more efficient to seek a more detailed analysis.

The quality of the state reviews of plans and specifications also appears to be very good. The reviews, as contained in the plans and specifications review report, were very detailed, they were thorough, they appeared substantive rather than nitpicky and they were backed, in the case of process and hydraulic design comments, by a detailed set of design calculations performed by the state reviewer. Again the comment the contractor would offer is that the operability reviews performed by the state, in contrast to the review of specifications, process design and hydraulic design, appear to be on the light side. The contractor would suggest that the training officers within the construction grants section provide a more thorough review of treatment plant designs from an operability standpoint. The contractor understands that up until just recently the state has had a backlog of facilities plans and has probably found it difficult to take the additional time to do something like this. Now, however, as this backlog has disappeared there should be more time to perform a more detailed analysis in this area.

#### Timeliness of State Reviews

The processing times by the state for grant applications reviews and approvals appear to be good. The contractor feels that a state should be able to process grant applications in approximately 30 days. The State of Montana is coming close to this in terms of Step 1 application, as indicated by Table 2. They are doing better than this in terms of Step 2 applications, and are over this time in terms of Step 3 applications. In terms of facilities planning review the state processing

times are considerably longer, as are plans and specifications reviews.

The contractor would note that the total processing for the state reviews of the five key review approvals is 426 days or approximately 14 months. The contractor would suggest a total time frame of 7 or 8 months as being achievable, at the same time maintaining a high quality of state review. The contractor would also note that a key aspect of achieving a reduced total processing time is more active state involvement in the facilities planning and plans and specifications process.

The contractor believes that the state should put effort into further reduction of processing times, especially for facilities plans and plans and specifications. The contractor would suggest that the state adopt processing time goals for each of its major review activities and that actual performance against those goals be monitored on a regular basis. The contractor would suggest the monthly report previously discussed would be a good reporting mechanism for this purpose. In terms of the goals to be established, the contractor would suggest 30 days for applications, and 60 days for facilities plans and plans and specifications.

Another useful technique that the contractor has seen in other states is for the state to establish a goal of getting comments out on all major documents received, including applications, facilities plans and plans specifications, within 30 days of the receipt of those documents. The contractor has observed in the several states that practice this approach, that quality state reviews can be conducted within this time frame. Again it has been the contractor's experience that unless state reviews are aimed at being conducted

within a certain time frame, they tend to take longer.

### Overall State Performance

On an overall basis the performance of the State of Montana in terms of administering the delegated construction grants program has to be rated as very good. The strengths of the state's program are the fine array of management tools utilized by the state, the active involvement of the state in the facilities planning and design processes and the quality of the state reviews.

One thing which would further improve state management of the program would be to appoint as assistant section chief, either full-time or part-time, to help the chief of the Construction Grants and Training Section. Another area where improvement would be possible is to further expand the management tools utilized by the state. More particularly the contractor recommends that the state expand the current monthly report to include more program and performance related information, both past and future, that the state develop a project tracking system, that the scope of the monthly training sessions be expanded to the extent that these training sessions become the prime formal means of communication between the state and EPA field office, that the state develop an outside advisory committee made up of consulting engineers active in the program and the state meet with this committee on a regular basis, and that the state implement a quality assurance program.

In terms of grants processing procedure the state procedures appear to be very good. The only recommendation which the contractor has is that the state pursue their intentions of getting more actively involved with grantees and consultants during the preparation of

facilities plans and during the design of proposed facilities.

Insofar as the timeliness of state reviews, the state appears to be doing a good job in the area of review and approval of applications, but needs some improvement in the areas of facilities plan reviews and plans and specifications reviews. The contractor suggests that the state establish time goals for each of these reviews and that actual performance against these goals be monitored on a regular basis.