

# Personnel Management

To have cost-effective operation and maintenance (O&M) of a water and wastewater system, local officials must ensure that the community employs an adequate number of well-trained staff.

Communities should consider personnel management as important as funding for equipment repair and replacement. Local officials must realize that an adequate, well-trained staff is necessary both to provide cost-effective O&M of their facilities and to ensure compliance with all regulatory requirements. Inadequate staffing will inevitably lead to poor performance at even the newest, highest technology facilities.

This section will provide some guidelines to help local officials determine the necessary steps to develop the best possible staff.

## In this chapter:

- ◆ Staffing plans
- ◆ Training and certification
- ◆ Training sources



## Warning

Inadequate or poorly trained staff inevitably leads to non-compliance problems and potential fines.

## Developing an Adequate Staffing Plan

Generally, staffing is the largest component of an O&M budget for a water or wastewater facility. For small communities, these costs comprise by far the main budget component. However, this almost never means that local officials should try to reduce O&M direct labor costs as a way of cutting budgets. For example, it may be that large amounts of overtime pay are being spent on existing staff, so that in fact hiring additional personnel may be a more cost-effective approach to spending personnel dollars. Another factor involved in determining staffing cost-effectiveness is the use of outside contractors to perform certain O&M functions. A community might consider using contractors for functions such as major maintenance or overhaul, flow meter calibration, or laboratory analysis as cost-effective options for reducing staffing requirements.

Development of a staffing plan will not only ensure cost-effectiveness, but will also help local officials meet their responsibility to ensure that water and wastewater facilities comply with state and federal regulations. Inadequate or poorly trained staff inevitably leads to non-compliance problems and potential fines. In addition to complying with appropriate regulations, local officials also have a responsibility to the citizens of their communities to provide uninterrupted utility service. Adequate quantity and quality of drinking water and protection of the environment must be key considerations in the management of a utility system. An adequate staffing plan is essential to achieving that goal. Here are the steps for preparing a sample staffing plan:

1. **Develop an organizational chart.** It is important to have a clear organizational chart to determine how utilities need to be managed. In many small communities, one person might be able to supervise both the water and wastewater operations, as well as take care of the public works department, which includes roads, streets, and other infrastructure. But this type of arrangement is becoming more difficult in today's environment, due to increasingly complex regulations and the resulting complex-

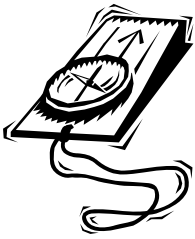
ity of treatment systems. The current trend is to separate water and wastewater utilities from other public works, to improve performance and enable technical personnel to develop comprehensive expertise in their areas of responsibility. To effectively implement this organizational approach, local officials need adequate information about specific job responsibilities to then determine the number and type of personnel required. *The product of this first step in developing a staffing plan is an organizational chart showing all lines of supervisions and authority, all filled and unfilled positions, and an approximation of all needed but as yet unauthorized positions.*

2. **Conduct a task analysis.** A detailed task analysis will help determine how many workers are needed and the level of experience, certification, and expertise necessary for each water and wastewater facility job. Begin by identifying all O&M tasks that must be accomplished to ensure adequate performance by the facility. Include tasks that are currently being accomplished, as well as those that should be done but might not be, due to lack of time, talent, or other resources. The task list must reflect all routine O&M tasks required for the entire year. Some tasks may be daily, while others might be performed weekly, monthly, or even yearly. To develop a comprehensive task list that truly reflects the needs of the facility, an experienced supervisor familiar with the facility should be involved at all stages of the task analysis. Additional assistance may be necessary from an operations and maintenance consultant, to help evaluate clearly and comprehensively all the staffing needs of the facilities. To develop the task list it is necessary to review O&M manuals, conduct on-site task evaluations at the facility, and interview key O&M personnel and their supervisors. *The product of this second step in developing a staffing plan is a comprehensive task list, organized by unit processes.*
3. **Determine staffing requirements.** The next step is to review the task list and calculate the time each task normally requires. It is necessary to compute the total number of person-hours per task, per technical skill, per year required to provide adequate O&M of the facility. Once that number is determined, it may be divided by the total number of hours that each worker is available per year, taking into account vacations, holidays, etc. In this way it will be possible to derive a number that approximates the personnel hours needed to provide adequate O&M for the facilities in question. *The product of this third step in developing a staffing plan is a break out of required staffing hours, by skill and by task.*
4. **Create job descriptions.** Once the estimated number of staff hours is determined, the organizational chart should be appropriately modified and each staff member's responsibilities redefined. Detailed job descriptions for each position identified on the chart should be prepared. Job descriptions should include areas of responsibility, summaries of required tasks, subordinates supervised, and supervisors to whom reports are made. *The product of this fourth step in developing a staffing plan is an updated set of written job descriptions.*



### **Timely Reminder**

In addition to follow-up budget monitoring relating to staff changes, management should periodically assess the changes in terms of improved efficiency and performance of the utility's operation and maintenance.



### **Helpful Guidance**

Local officials need vigorously to support continuing education, both to comply with regulations and because certified operators generally are able to do a better job of protecting the environment, public health, and the costly infrastructure of the treatment system.



**Money Matters**  
Good training will result in a substantial payback over the years in terms of well-run facilities.

5. **Implement staffing changes.** After approving the staffing changes recommended by steps 3 and 4, the O&M budget must be modified appropriately. In addition to follow-up budget monitoring relating to these staff changes, management should periodically assess them in terms of improved efficiency and performance of the utility's operation and maintenance. *The product of this final step in developing a staffing plan is a new written staffing plan and corresponding budget.*

## **Staff Training and Certification**

### **Certification Requirements**

All states have certification requirements for water and wastewater operators. The 1996 SDWA amendments require every state to implement a certification program for operators of water treatment facilities. Certification of some form has long been required for wastewater operators in every state. All local governments must, therefore, employ certified operators at their facilities to comply with federal and state regulations.

Generally, certification regulations require an operator to pass a written test and have some minimum amount of experience and education to obtain an operator's certificate. Once an operator is certified, many states also then require a minimum amount of training during the term of the certificate, in order to be eligible for renewal. The renewal period is typically two or three years.

It is the operator's individual responsibility to make sure he or she obtains all required training hours for certificate renewal. Local officials need vigorously to support this continuing education, both because a local government must employ certified staff to stay in compliance with certification regulations and because certified operators generally are able to do a better job of protecting the environment, public health, and the costly infrastructure of the treatment system. Additionally, there is the critical issue of the corporate liability that a local government has for the performance of its water and wastewater treatment system; this liability may be severely compromised by its operators' lack of certification.

### **Additional Training Needs**

In addition to ensuring compliance with certification regulations, a comprehensive training program for water and wastewater operators will provide other significant benefits for a local government. A well-trained staff is essential for efficient utility O&M. Good training will result in a substantial payback over the years in terms of well-run facilities. Therefore, far-sighted local officials will make sure that O&M budgets provide adequate funds for staff to go to the best training available. This may mean sending staff to off-site training events, paying the cost of course registration as well as travel expenses, or having staff attend training programs during working hours and directing other personnel fill in during that time.

Another training option is to contract on-site training customized to the individual water or wastewater facility. Not all training needed is technical in nature. Training programs relating to management, supervision, and other important skills, such as effective report writing and use of the computer, are also important in developing a more efficient and productive staff.

If the staff size is sufficiently large, it may be a good idea to designate a training coordinator. This individual can determine staff training needs and watch for appropriate training opportunities or courses. In addition, the training coordinator can schedule employees for off-site training, set up on-site training classes, and monitor the training budget. The coordinator should also evaluate the training programs and determine which ones are most effective in improving staff performance. The individual coordinating training needs some technical experience in water or wastewater treatment.

## Training Sources

Many sources of training are available for operators of water and wastewater treatment facilities. Local officials need to determine which sources are most appropriate for their staff in terms of quality and cost effectiveness. Some states require continuing education units (CEUs) in addition to contact hours for certification renewal, so that issue must be considered when choosing sources of training. In most states, training will be available through the following organizations:

- ◆ state environmental training centers
- ◆ state regulatory agencies
- ◆ operator associations
- ◆ professional organizations such as the Water Environment Federation, the American Water Works Association, and the Rural Water Association

In addition, a local government may contract training, including on-site programs, using operations and maintenance consultants, consulting engineers, or manufacturer's representatives.

Quality training opportunities are important for staff development. The best training is not necessarily the cheapest. It is up to local officials to work with their staff to ensure that training being considered develops a staff that can provide effective O&M of the water and wastewater facilities.



### Helpful Guidance

Many sources of training are available for operators of water and wastewater treatment facilities. Local officials need to determine which sources are most appropriate for their staff in terms of quality and cost effectiveness.