

RECORDKEEPING

All reports, records, lab sheets, and log books maintained by the plant operators represent official legal documents. All plant records are subject to inspection by DEP and EPA and must be kept on file for a three year minimum period. From a legal perspective, it is essential that the plant operators keep accurate and detailed records of all facility operations.

Beyond their legal and compliance purposes, the plant's records also serve an even more important role for the operators. Good records are invaluable for the operators to track the plant's operating history, loading trends, process performance, and effluent quality. Good data and records allow the operators to quickly recall past observations and performance at the facility which might offer some bearing on current issues. The optimization of a biological treatment process begins with textbook target values for various parameters as presented in this manual. This should be viewed as only the starting point. Over time, the operators will likely fine tune the plant's target ranges to settings that are found to produce the best effluent under various conditions. A strong and detailed data record will reveal operational settings where the plant is most successful as well as other settings where the performance may have been inhibited. Good records will allow the data trends to be evaluated to reveal parameters and settings where the plant performs best. Good process control should include adjustments where different target control settings will be used for winter versus summer, high flow versus low flow, or high organic loading versus normal loading periods. This type of detailed, analytical approach to process control can only be successful if the plant has a good recordkeeping system that allows the operators to look back in time.

Records are also critical for the optimal operation of the plant's maintenance program. Detailed maintenance records on every piece of equipment in the plant will allow the operators to conduct a proactive preventative maintenance program. Over time, the plant's past records can become a powerful tool for future maintenance planning and scheduling.

In short, a professionally managed facility requires professionally kept records. The plant operators are encouraged to keep a number of different records that describe various facets of the facility's operation. All records should be kept in well marked file cabinets or bound notebooks and binders. As a minimum, the following records should be on-hand and should be readily retrievable at all times:

- A log book should be kept in a bound ledger style book that offers a running discussion of the daily events that occurred at the treatment plant. Essentially, the log book serves as a legal diary of the plant's operation. It should serve as a summary of the significant observations

and highlights that occur at the plant on a daily basis. It can be used as the focal point from which to draw detailed information from various other records into a single document; however, it need not be repetitious to the extent that all detailed data is repeated and clutters up the log book. The document should summarize problems that occurred, describe issues that arose, visitors to the plant, effluent quality issues of significance, and process control variations or deviations. It should be written in a manner that would be clear to any third party that might need to read the log book in the future.

- Daily laboratory bench sheets should be maintained in bound notebooks or binders for each lab procedure performed. There should be a separate book for BOD tests, TSS tests, and E. coli tests. Each book should have a new sheet for each day that describes multiple tests that may have been performed. For example, the TSS book might include MLSS and RAS data in addition to influent and effluent TSS values. Alternatively, separate books might be maintained for each parameter.
- Daily operations sheets are useful internal reports that allow the operators to track initial plant data for a given day on a single sheet. This sheet is used to compile the results of individual lab tests on a single sheet. Only the results are shown on the daily operations report. Detailed bench test results for each entry would have to be obtained from other bound report books.
- Monthly DEP 49 forms are the legally required state operating report for each month. This sheet allows the operators to report flow, TSS, BOD, MLSS, temperature, pH, bacteria, weather, D.O., wasting rates and other significant process performance data. The DEP form must be signed by the plant's licensed operator of record and is an important compliance reporting document. In some plants, the DEP 49 form is filled in on a daily basis. Some operators leave the form blank to be filled in at the end of the month using data from the daily operations reports. This ensures that the form will be kept neat and legible. Alternatively, some operators fill in a draft form and then use it to compile a final form at the end of the month. In either case, this form must be accurate, truthful and clearly legible in all respects. A sample DEP 49 form is shown in Appendix G.
- DEP/EPA Discharge Monitoring Reports are sent in to DEP at the end of the month with the DEP 49 form. They include key data off the DEP 49 forms which are submitted in a summary, computer data entry

format. This data goes into EPA and DEP's database and is used to track license compliance. A sample DMR report is shown as Appendix H.

- Maintenance reports for the plant have presently been discussed and presented in Appendix F. These reports include equipment cards, preventative maintenance cards, and repair cards.
- Individual equipment operations tracking reports are useful at various locations around the plant. They are generally used to track routine operating data that should be checked everyday, but which has no significance beyond the localized equipment area. It is less useful to transfer data of this type to a central location or logbook than to keep it posted on a clipboard for the month right next to the specific equipment. Each day when the operators make the daily rounds, data is entered on the clipboard. At the end of the month, the old filled-in sheet would be placed in the file and a new sheet would be placed on the clipboard.

There are serious legal ramifications for any person that tampers with treatment plant records or provides false information. Penalties include fines of up to \$10,000 per day per violation and prison sentences of up to six months. Accuracy and honesty are critical in the management of the plant's recordkeeping systems.