

INDIANA

WASTEWATER COLLECTION SYSTEM

OPERATOR CERTIFICATION PROGRAM

Program Information

Prepared by the
Indiana Water Environment Association
Wastewater Collection Systems Committee
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INTRODUCTION

This brochure has been prepared by the Indiana Water Environment Association to assist and promote professional credentials and certification for wastewater collection system personnel within the State of Indiana. To this end, the Wastewater Collection Systems Committee has revised and upgraded this voluntary certification program in order to 1) define and maintain universally recognized qualifications for collection systems operators; 2) to promote uniformity of standards and practices in certification; and 3) to assist utilities in setting and evaluating personnel standards for collection system operations. One mechanism for accomplishing these goals is through the use of national standardized certification examinations.

The Indiana Water Environment Association has joined with the Associated Boards of Certification (ABC) to develop this program. ABC standards and certification procedures are intended as a model program for certification authorities throughout the country. ABC provides the standardized testing materials and electronic grading of examinations. The Indiana Water Environment Association is responsible for administration of the program within the state.

DUTIES OF A COLLECTION SYSTEM OPERATOR

In general, collection system operators are not responsible for the design, construction, and inspection of their respective systems. However, in performance of their duties, each operator will normally be exposed to these tasks, and may be asked to supervise sewer installation as a representative of their utility. Collection system operators who understand the fundamentals of design and installation will be better able to optimize the operation and maintenance of their system.

Collection systems operators are routinely called upon to perform tasks that may include the following:

- Installation, maintenance, and repair of collection system pipes and/or manholes;
- Maintenance and repair of lift stations and other collection system components;
- Inspection and/or approval of work performed by others;
- Using closed circuit television for gathering information about the condition of the system;
- Using various infiltration and inflow detection methods in preparation for removal of clean water from the system;
- Removing stoppages in the collection system using various hydraulic and mechanical equipment;
- Possessing the knowledge and ability to set safe and manageable traffic control procedures for all work in public rights-of-way;
- Possessing knowledge of, and complying with, safety procedures established by regulatory agencies for the protection of all workers;
- Developing the ability to recognize collection system deficiencies and potential solutions to eliminate or minimize problems;
- Monitor flows and operating conditions throughout the collection system;
- Keeping records and files on problem areas, preventive maintenance, repairs, new construction, inspection, safety, crew and equipment schedules, etc.;
- Developing various programs to protect the utility's investment in infrastructure as well as to minimize disruption to customers; and
- Work and communicate effectively with the public.

The above areas are intended only as typical responsibilities of collection system operators. Actual responsibilities for operation personnel will vary with each utility. In addition, specific methods of accomplishing various tasks will vary. The ABC certification program is intended to provide certification in universally accepted tasks and methods of operation, and does not necessarily reflect what may be occurring in your community.

CLASSIFICATION OF COLLECTION SYSTEMS

All wastewater collection systems intended for use by the public, or which are a part of a system which ultimately discharges into receiving bodies of water shall be classified as Class I, Class II, Class III, or Class IV, with Class IV being the largest and most complex. These classifications are determined by population of the service area of the applicant's utility and are as follows:

1,500 and less	Class I
1,501 to 15,000	Class II
15,001 to 50,000	Class III
50,001 and greater	Class IV

QUALIFICATIONS FOR CERTIFICATION

An applicant's qualifications for certification shall be based on satisfying certain minimum education and experience requirements and passing the appropriate certification examination. The education, experience, and examination requirements are co-requisites. Operator education and experience requirements are as follows:

Class I

- High school diploma, GED, or equivalent; and
- One year of acceptable operating experience of a Class I or higher utility.
- No substitution of experience shall be permitted

Class II

- High school diploma, GED, or equivalent; and
- Three years of acceptable operating experience of a Class I or higher utility.
- A maximum of 675 contact hours, or 68 CEU's, or 45 semester credits of post high school education in the environmental control field, engineering or related science may be substituted for one and one-half years of operating experience.

Class III

- High school diploma, GED, or equivalent; and
- 900 contact hours, or 90 CEU's, or 60 semester credits of appropriate post high school education in the environmental control field, engineering or related science; and
- Four years of acceptable operating experience of a Class II or higher utility, including two years of direct responsible charge.
- A maximum of 900 contact hours, or 90 CEU's, or 60 credits of appropriate post high school education in the environmental control field, engineering or related science may be substituted for two years of operating experience; however, the applicant must still have one year of direct responsible charge experience
- A maximum of one year of direct responsible charge experience in a Class II or higher position may be substituted for 450 contact hours, or 45 CEU's, or 30 semester credits of post high school education in the environmental control field, engineering or related science.

Class IV

- High school diploma, GED, or equivalent; and
- 1,800 contact hours, or 180 CEU's, or 120 semester credits of appropriate post high school education in the environmental control field, engineering or related science; and
- Four years of acceptable operating experience of a Class III or higher utility, including two years of direct responsible charge.

- A maximum of 900 contact hours, or 90 CEU's, or 60 credits of appropriate post high school education in the environmental control field, engineering or related science may be substituted for two years of operating experience; however, the applicant must still have one year of direct responsible charge experience
- A maximum of two years of direct responsible charge experience in a Class III or higher position may be substituted for 900 contact hours, or 90 CEU's, or 60 semester credits of post high school education in the environmental control field, engineering or related science.

SUBSTITUTIONS

- Education applied to operating and direct responsible charge experience requirements shall not be also be applied to education requirements.
- Operating or direct responsible charge experience applied to the education requirements shall not also be applied to the operating or direct responsible charge experience requirements.
- One year of operating or direct responsible charge experience may be substituted for two years of grade school education, without limit.
- One year of operating or direct responsible charge experience may be substituted for one year of high school education, without limit.
- Where applicable, related experience in maintenance, laboratories, other environmental control utility positions and allied trades, or other certification categories, may be substituted for one-half of the operating or direct responsible charge experience requirements; however, the applicant for Class III and IV must still have one year of direct responsible charge experience.
- The maximum amount of education and related experience for operating or direct responsible charge experience shall not exceed fifty percent of the stated operating or direct responsible charge experience requirement.

IN-TRAINING CERTIFICATIONS

An applicant may sit for an examination before he/she satisfies the education and/or experience requirements if he/she is fully certified at the next lower level certification class, except for Class I applicants which must fully meet the established qualifications. The individual sitting for the upgraded certification shall be issued an In-Training certificate provided he/she has passed the appropriate certification examination. In-Training certifications may be upgraded to full certificates upon satisfactory fulfillment of all certification requirements during the effective period of the certificate.

CERTIFICATION PERIOD

A certificate shall be issued as a life-time certification.

ADMINISTRATION

Evaluation of Applications

A committee appointed by the Wastewater Collection Systems Committee of IWEA will review and evaluate applications and qualifications documentation submitted by applicants. The applications will be reviewed for accuracy and fulfillment of minimum education and experience requirements for each certification classification. Applicants will be notified in writing of the results of the evaluation procedures. If it is determined that an applicant has met all criteria for the examination, he/she will be notified of the date(s) and location(s) of the next examination. If an applicant is determined to not qualify for examination, he/she will be notified regarding the additional amount of education and/or experience necessary to qualify for the classification being sought.

Locations and Times of Examinations

The Wastewater Collection Systems Committee normally schedules certification examinations in April and October each year, as dictated by the number of applicants. Examinations are normally conducted in

locations determined by accessibility to applicants and/or availability of appropriate examination facilities. Locations and dates of examinations will be regularly noted in publications by the IWEA and/or response letters to applicants.

Examination Procedures

Each applicant should bring at least two No. 2 lead pencils with erasers to the certification examination. While the examination proctor may have pencils available, the applicant should not rely on IWEA providing these materials. The applicant may use a calculator during the course of the examination. These are the only items which will be permitted in the examination room, other than materials supplied by the examination proctor.

Each applicant will be provided with a test booklet, which includes standard formulas for various calculations, answer sheet, and other materials as provided by ABC for the administration of the examination. When the examination is completed by each examinee, all test materials will be collected by the proctor.

Examination Grading

All examination questions are multiple choice. Each answer sheet will be electronically graded by ABC. A passing grade for the certification examination is a minimum of 70%.

Notification of Results

Grading of examinations may take thirty to forty-five days. Each examinee will be notified in writing of this test score, as soon as results are obtained from ABC. This notification letter will indicate the certification classification being sought as well as the test score. If the examinee has successfully passed the examination, a certificate will be issued within a reasonable time following this notification.

Appeals Procedure

The certification Program Administrator will maintain copies of each examination booklet and answer sheet for a period of forty-five days following receipt of test scores from ABC. During this time period, an examinee may request to review the test materials. It should be noted, however, that the answer sheets are electronically graded and will not reflect either correct or incorrect responses to questions.

In order to appeal the grading of an examination, the examinee must have completed a form provided with each examination. This form allows the examinee to comment on any given test question which he/she feels does not provide an appropriate answer or may not be clearly stated. Failure to complete this standard form will result in the examinees forfeiture of appeals rights. It should be noted that the ABC examination questions are straight-forward and do not contain "trick" questions. The applicant should select the best appropriate answer from the available selections.

Costs

This voluntary certification program is designed to be self-sustaining. All labor to administer and oversee this program is based upon volunteers from the IWEA Wastewater Collection Systems Committee. At present, many of the program costs including telephone, postage, typing, printing, reproduction, and other similar costs are provided by the volunteers and/or their employers. In this manner, we are attempting to control the costs to our operators. IWEA does incur direct costs from ABC, however, in the form of annual membership fees as well as costs associated with providing and grading examinations.

The only financial support for this program comes from application fees, which are structured to cover costs only. For this reason, application fees are not refundable. Application fees will be adjusted periodically to reflect the costs of the program.

TRAINING OPPORTUNITIES AND MATERIALS

Collection system operators need to adequately prepare for taking the certification examination. Materials which may be of benefit to applicants include, but are not limited to, the following:

- Operation and Maintenance of Wastewater Collection Systems, available from Ken Kerri @ California State University;
- Safety and Health in Wastewater Systems, MOP 1, available from Water Environment Federation
- Regulation of Sewer Use, MOP 3, available from Water Environment Federation
- Operations Training/Pumps: Operation and Maintenance CD ROM Course, available from Water Environment Federation
- Collection System Maintenance Study Guide, 3rd Edition, available from Water Environment Federation
- Math Workbook for Collection System Operators, available from Water Environment Federation
- WEF/ABC Certification Study Guide for Collection Systems Personnel, available from Water Environment Federation
- Collection Systems Basic Course, available from Water Environment Federation
- Confined Space Entry, available from Water Environment Federation
- Confined Space Safety & Rescue Operations, available from Water Environment Federation
- Building Sewer Installation and Inspection, available from Water Environment Federation
- Control of Infiltration and Inflow in Private Building Sewer Connections, available from Water Environment Federation
- Prevention and Control of Sewer System Overflows, MOP FD-17, available from Water Environment Federation
- Smoke, Dye, and Television: Ways and Reasons to Fix Sewer Defects on Private Property, available from Water Environment Federation
- Using Flow Prediction Technologies to Control Sanitary Sewer Overflows, available from Water Environment Federation
- Wastewater Collection Systems Management, MOP 7, available from Water Environment Federation
- Existing Sewer Evaluation and Rehabilitation, MOP FD-6, available from Water Environment Federation
- Design of Wastewater and Stormwater Pumping Stations, MOP FD-4, available from Water Environment Federation
- Alternative Sewer Systems, MOP FD-12, available from Water Environment Federation
- Gravity Sanitary Sewer Design and Construction, MOP FD-5, available from Water Environment Federation