LABORATORY TECHNICIAN (WASTEWATER TREATMENT)

DISTINGUISHING FEATURES OF THE CLASS: This position exists in the Herkimer County Wastewater Treatment Plant and involves responsibility for performing physical, chemical, bacteriological and microscopic examination and analyses of raw and treated wastewater and sludge. The incumbent is responsible for performing difficult standard laboratory tests and procedures required for control of the treatment process and necessary stream or industrial waste surveys. Additionally, the incumbent makes treatment process control recommendations to the Chief Operator or shift supervisor for control of plant operation. The work is performed under general supervision of the Chief Operator with leeway allowed for exercise of independent judgment in carrying out details of the work. Supervision may be exercised over the work of others related to sampling and testing procedures. The incumbent does related work as required.

TYPICAL WORK ACTIVITIES:

-Performs difficult or unusual chemical tests on sludge, waste and wastewater found in streams and treatment plants, such as ammonia nitrogen analyses, organic and total kjeldahl nitrogen analyses, nitrite and nitrate determinations, alkalinity analysis, sulfate analysis, chloride analysis, phosphate analysis, metals determinations, suspended, total, and volatile solids determinations to determine effects upon plant operations and quality of receiving waters;

-Provides technical advice to operating personnel based on analyses of sludge, waste and wastewater for effective and efficient control of plant operation;

-Recommends process adjustments such as adjusting air flow to the activated sludge process, including turning on additional blowers, adjusting feed and sludge wasting rates of secondary system, adjusting sludge conditioning chemicals, adjusting chlorine feed rate for effluent disinfection, and recommending treatment procedures for toxic or shock loadings to the plant;

-Evaluates analytic work and methodologies as necessary for plant personnel;

-Operates a variety of scientific equipment used in analyses, such as atomic absorption and visible spectrophotometers, titralyzers, microscopes, ph meters, dissolved oxygen meters, conductivity meters, balances, incubators, constant temperature baths, drying ovens, furnaces and autoclaves;

-May instruct others in laboratory procedures and in proper care and use of laboratory equipment;

-Performs microbiological examinations such as microorganism examination of activated sludge and fecal coliform count of effluents and receiving waters;

-Prepares and standardizes required reagents, bacteriological media and solutions necessary for chemical and bacteriological tests and analyses;

-Maintains laboratory and chemical storage facilities in a safe, clean and orderly fashion;

-Reviews, analyzes and interprets technical data for purposes of composing technical reports or for determining accuracy of subordinates' reports;

-Participates in training of plant personnel regarding laboratory procedures;

-Establishes methodology for and supervises laboratory Quality Control Program including calibration of equipment, preparation of chemical standards, and preparation and testing of spiked and replicate samples:

-Attends laboratory related courses and seminars to keep abreast of developments in the field.

FULL PERFORMANCE KNOWLEDGES, SKILLS, ABILITIES & PERSONAL CHARACTERISTICS: Good knowledge of modern technical laboratory techniques, equipment, terminology and safety precautions used in the analysis of water, wastewater and sludge; good knowledge of the principles of environmental health as they relate to wastewater treatment; good knowledge of the practices and methodology of analytical chemistry, bacteriology and microbiology as they relate to wastewater analysis, and treatment and interpretation of results for control of plant operation; good knowledge of instrumental analysis; skill in the operation and care of laboratory equipment and apparatus, and use and storage of chemicals; ability to direct operating personnel in collection of samples and performance of simple tests; ability to plan and supervise the work of others; ability to understand and carry out technical oral and written instructions; ability to maintain technical records and reports; ability to apply accepted scientific procedures, methodology and formulas to work assignments; ability to analyze and interpret laboratory results for making process control adjustments; accuracy; physical condition commensurate with the demands of the position.

MINIMUM QUALIFICATIONS:

Either (A) Graduation from a regionally accredited or New York State registered two year college or university with an associate degree in laboratory technology or a related field and two years of experience in performing technical tests in a public health or medical laboratory or performing tests involving water or wastewater analysis;

Or **(B)** Graduation from high school or possession of a high school equivalency diploma and four years of experience in performing technical tests in a public health or medical laboratory or performing laboratory tests involving water or wastewater analysis;

Or **(C)** An equivalent combination of training and experience as defined by the limits of (A) and (B) above.

Competitive Class

Adopted 09/27/1983