

ILLINOIS DEPARTMENT OF CENTRAL MANAGEMENT SERVICES
CLASS SPECIFICATION

ENERGY AND NATURAL RESOURCES SPECIALIST SERIES

<u>CLASS TITLE</u>	<u>POSITION CODE</u>
ENERGY AND NATURAL RESOURCES SPECIALIST TRAINEE	13715
ENERGY AND NATURAL RESOURCES SPECIALIST I	13711
ENERGY AND NATURAL RESOURCES SPECIALIST II	13712
ENERGY AND NATURAL RESOURCES SPECIALIST III	13713

Effective: 5-16-91

INTRODUCTION:

Energy and Natural Resources Specialists use scientific methods to gather, develop and analyze information to determine appropriate balances between socioeconomic and chemical/physical effects of industrial development upon the ecology. These effects of conflicting interest within the larger community include pollution, development and retention of jobs, environmental health hazards, cost to consumers and other concerns. Energy and Natural Resources Specialists apply knowledges and skills, typically acquired in baccalaureate and master's degree programs with coursework in natural and social sciences and work experience in fields related to assigned programs. These programs include development and marketing of Illinois coal, improving energy efficiency of the public sector and small business, siting of solid waste facilities, reducing solid waste through source reduction and recycling and assessment of the long-range need for new power supplies and sources.

While all the positions included in the Energy and Natural Resources Specialist Series have a similar grounding in basic and applied sciences, individual positions may require different combinations of specified knowledges and abilities to reflect the range of programs and are illustrative.

ENERGY AND NATURAL RESOURCES SPECIALIST TRAINEE POSITION CODE: 13715

DISTINGUISHING FEATURES OF WORK:

Under immediate supervision, participates in an agency sponsored training program of 6 to 12 months, receives training and work assignments of increasing complexity and difficulty designed to develop a working level expertise in energy conservation, alternative energy, research and planning, promotion of Illinois coal utilization, solid waste management and renewable resource development or other environmental and resource management issues.

ILLUSTRATIVE EXAMPLES OF WORK:

1. Receives comprehensive training and participates in data collection, research, development and evaluation of statewide energy plans. Participates in written analysis for projects such as a feasibility review of innovative approaches to long term contractual relationships between utilities and independent producers.

ENERGY AND NATURAL RESOURCES SPECIALIST TRAINEE (Continued)

2. Receives comprehensive training and participates in grant proposal evaluation, project monitoring and evaluation and program design to reduce solid waste and recover energy and recyclable materials from discarded materials. Participates in providing technical and grant assistance to local government and business. Participates in and prepares materials for seminars/workshops for the solid waste schools' education program; participates in market development for materials recovered from the waste stream.
3. Receives comprehensive training and participates in development of long-range planning to market Illinois coal; assists in gathering data regarding buying trends in the coal industry; participates in research activities directed at sulfur in coal.
4. Receives comprehensive training and participates in programs to improve energy efficiency of small business, local government, agriculture, single and multi-family residences and religious institutions through the provision of technical and educational assistance; accompanies senior specialists on energy audits; assists senior specialists with energy utilization grant and contract administration.
5. Performs other duties as required or assigned which are reasonably within the scope of the duties enumerated above.

DESIRABLE REQUIREMENTS:

Education and Experience

Requires knowledge, skill and mental development equivalent to completion of four years of college with coursework in energy, economics, environmental studies, natural sciences, social sciences, education or related fields.

Due to the nature of the work, a more desirable candidate for an individual position may have completed certain specified combinations of coursework.

Knowledges, Skills and Abilities

- Requires elementary knowledge of computer science.
- Requires elementary knowledge of energy audits.
- Requires elementary knowledge of energy conservation.
- Requires elementary knowledge of computerized modeling and statistical packages.
- Requires elementary knowledge of environmental laws and regulations.
- Requires elementary knowledge of natural resource issues.
- Requires elementary knowledge of educational techniques.
- Requires elementary knowledge of Geographical Information Systems.
- Requires elementary knowledge of chemistry and biological activity.
- Requires elementary knowledge of sulfur chemistry and acid rain.
- Requires elementary knowledge of solid waste management practices.
- Requires elementary knowledge of heat transfer and thermodynamics.
- Requires ability to analyze detailed information.
- Requires ability to transform information between alternative formats data, graphs narrative, etc.
- Requires ability to speak to groups.
- Requires ability to evaluate proposals for technical feasibility, program conformance and policy criteria.
- Requires ability to communicate effectively, both orally and in writing.

ENERGY AND NATURAL RESOURCES SPECIALIST I

POSITION CODE: 13711

DISTINGUISHING FEATURES OF WORK:

Under direct supervision, at a developmental level, assists with energy and natural resource grants and contract management, program development evaluation; assists with promotion of Illinois coal utilization, solid waste and renewable resource management, energy conservation, alternative energy, statewide energy planning or other environmental and resource management issues and evaluation of impact of federal legislation; functions with increasing programmatic knowledges and decreasing supervision to attain a full-journey level of responsibilities.

- OR -

Under direct supervision assists a higher level specialist in the planning and design of an educational program including making actual presentation.

ILLUSTRATIVE EXAMPLES OF WORK:

1. Assists senior specialists with development of Statewide Gas Plan; reviews related literature of gas issues; analyzes issues using computerized modeling; uses computerized modeling to determine cost-effectiveness of conservation programs; assists with development and evaluation of innovative contracts between energy producers and utilities; collects data for the cogeneration data base; assists with the preparation of the quarterly report on cogeneration.
2. Assists senior specialists in promotion of source reduction, recycling and other solid waste management alternatives; assists with outreach in technical assistance and education program activities to encourage local government, private industry, the general public and schools to adopt alternatives that minimize disposal of solid waste; assists with support for recycling grants management and contract negotiation; assists with collection and analysis of solid waste reduction programs.
3. Assists with collection of data and preparation of reports related to Illinois coal; assists with grants and contracts management related to the promotion of Illinois coal utilization.
4. Assists with energy conservation program and grants administration; assists with energy audits and inspections of single and multi-family residences, small businesses and local government structures; receives and acknowledges grant applications; assists with final grant application reviews and recommendations.
5. Assists with energy surveys of state facilities to identify ways to save energy and money; collects data on energy using systems; evaluates conservation strategies.
6. Performs other duties as required or assigned which are reasonably within the scope of the duties enumerated above.

ENERGY AND NATURAL RESOURCES SPECIALIST I (Continued)

DESIRABLE REQUIREMENTS:

Education and Experience

Requires knowledge, skill and mental development equivalent to the completion of four years of college with coursework in energy, economics, environmental studies, natural sciences, social sciences, education or related fields.

Requires completion of an agency sponsored training program or one year of professional experience in program development of technical assistance, education, research or conservation of energy and natural resources or related subject areas.

Due to the nature of the work, a more desirable candidate for an individual position may have completed certain specified combinations of coursework and work experience.

Knowledges, Skills and Abilities

Requires working knowledge of grants management.

Requires working knowledge of computer science.

Requires working knowledge of energy audits.

Requires working knowledge of energy conservation.

Requires working knowledge of computerized modeling and statistical packages.

Requires working knowledge of environmental laws and regulations.

Requires working knowledge of natural resource issues.

Requires working knowledge of educational techniques.

Requires working knowledge of Geographical Information Systems.

Requires working knowledge of heat transfer and thermodynamics.

Requires working knowledge of solid waste management practices.

Requires elementary knowledge of chemistry and biological activity.

Requires elementary knowledge of sulfur chemistry and acid rain.

Requires ability to analyze detailed information.

Requires ability to transform information between alternative formats data, graphs narrative, etc.

Requires ability to speak to groups.

Requires ability to evaluate proposals for technical feasibility.

Requires ability to communicate effectively, both orally and in writing.

ENERGY AND NATURAL RESOURCES SPECIALIST II

POSITION CODE: 13712

DISTINGUISHING FEATURES OF WORK:

Under general supervision, at a professional working level, performs energy and natural resource duties in grants and contract administration, program development and evaluation; performs professional duties in promotion of Illinois coal, solid waste and renewable resource management, energy conservation, alternative energy, statewide energy planning or other environmental and resource management issues and evaluation of potential impacts of federal legislation; the worker performs most ongoing programmatic functions without assistance from supervisor or more senior workers; serves as team members on projects.

- OR -

Under general supervision, plans and designs training presentations.

ILLUSTRATIVE EXAMPLES OF WORK:

1. Performs professional policy research duties related to natural resources and the environment; prepares analyses and position recommendations regarding legislation and amendments effecting energy and natural resource use and development; manages research contracts; prepares requests for proposals; evaluates proposals; negotiates contracts; coordinates contract progress, publication and distribution; analyzes policy implications; utilizes the Geographical Information Systems to specially convey socio-economic or physiographic data; coordinates data assimilation of roads, railroads, pipelines and power networks; utilizes Geographical Information Systems to screen for potential solid waste management facilities.
2. Performs professional grants management and program development duties to reduce the solid waste stream; promotes recycling and explores waste to energy alternatives to landfilling; reviews technical and general information on biomass energy, energy recovery from waste and composting; analyzes and prepares recommendations on economic, engineering, environmental and legislative factors related to the development and operation of various types of solid waste technologies and facilities; provides educational and technical assistance on solid waste issues.
3. Performs professional data collection and analysis duties in support of new and expanded uses of Illinois coal; reviews scientific literature and legislation in support of evaluations of coal research proposals; collects and analyzes data regarding buying trends in the coal industry; answers inquiries on new systems and retrofitting systems to use Illinois coal.

ENERGY AND NATURAL RESOURCES SPECIALIST II (Continued)

4. Performs professional energy conservation program and grant administration work; performs energy audits of small businesses or homes; reviews energy usage; reviews building envelope, heating, cooling and lighting; explains results and options to the client; promotes energy conservation programs by preparing and presenting educational seminars, workshops and conferences; interprets grants regulations; develops new rules and procedures; records and approves grant disbursements; reviews grant applications for conformance to state guidelines and federal regulations.
5. Performs other duties as required or assigned which are reasonably within the scope of the duties enumerated above.

DESIRABLE REQUIREMENTS:

Education and Experience

Requires knowledge, skill and mental development equivalent to the completion of four years of college with coursework in energy, economics, environmental studies, natural sciences, social sciences, education or related fields.

Requires two years of professional experience in program development of technical assistance, education, research or conservation of energy and natural resources or related subject areas.

Due to the nature of the work, a more desirable candidate for an individual position may have completed certain specified combinations of coursework and work experience.

Knowledges, Skills and Abilities

Requires working knowledge of methods and procedures utilized in determining the impact of various project proposals on the State's resources.

Requires working knowledge of grants management.

Requires working knowledge of computer science.

Requires extensive knowledge of energy audits.

Requires working knowledge of energy conservation.

Requires working knowledge of computerized modeling and statistical packages.

Requires working knowledge of environmental laws and regulations.

Requires working knowledge of natural resource issues.

Requires working knowledge of educational techniques.

Requires working knowledge of Geographical Information Systems.

Requires working knowledge of chemistry and biological activity.

Requires working knowledge of sulfur chemistry and acid rain.

Requires working knowledge of heat transfer and thermodynamics.

Requires working knowledge of solid waste management practices.

Requires ability to analyze detailed information.

Requires ability to transform information between alternative formats data, graphs narrative, etc.

Requires ability to speak to groups.

Requires ability to evaluate proposals for technical feasibility.

Requires ability to communicate effectively, both orally and in writing.

ENERGY AND NATURAL RESOURCES SPECIALIST III

POSITION CODE: 13713

DISTINGUISHING FEATURES OF WORK:

Under general direction, as an independent worker, performs energy and natural resource duties of medium scope, impact and size; performs duties on more complex or longer running projects and assumes more programmatic policy and planning functions; worker is authorized to commit the agency to a course of action in grants, contracts and other matters.

- OR -

Functions as a lead worker or project coordinator to lower level specialist or project manager for multiple projects.

- OR -

Assumes responsibility for a regional educational program.

ILLUSTRATIVE EXAMPLES OF WORK:

1. Plans, designs and conducts comprehensive studies to assess socioeconomic and environmental benefit and liabilities of proposed and current programs and policies; analyzes data; evaluates program success or failure as measured against state policy objectives; organizes data using P.C.s and mainframes; utilizes statistical, word processing, spreadsheet and graphic software packages to produce reports; monitors, reviews and analyzes legislative and regulatory proposals impacting energy and natural resource issues; utilizes computerized modeling to predict trends and changes in energy utilization; maintains economic and energy utilization data; prepares reports on energy markets; prepares Economic Impact Statements to analyze effects of proposed energy or environmental regulatory changes; identifies environmental research needs; solicits and reviews research proposals; manages research contracts with investigators; reviews and prepares recommendations for approval or rejection of Economic Impact Statements for contract investigators; utilizes Geographic Information Systems to manage mine permit program as mandated by the Lands Unsuitable For Mining Program; responds to information requests using Geographic Information Systems.
2. Manages programs for promoting the development of biomass energy, energy and material recovery from municipal solid waste; assists with and participates in funding and management of contracts for demonstration projects; encourages local governments and businesses to pursue innovative source reduction, recycling and energy recovery projects; promotes market development for utilization of recovered materials in manufacturing; prepares analysis and status reports of market trends; develops waste reduction education programs for grade and high school students and public; analyzes economic, environmental and legislative aspects of issues, policies and legislation related to source reduction, recycling, education, product labeling and other solid waste issues; manages grants; evaluates grant proposals; develops statements of work; reviews budgets; reviews projects and prepares progress reports; responds to requests for information from grant recipients and the public.

ENERGY AND NATURAL RESOURCES SPECIALIST III (Continued)

3. As an independent worker, supports new and expanded uses of Illinois coal; reviews scientific literature and legislation; evaluates coal research proposals for possible funding; tracks trends in coal utilization; acts as a resource person for new and retrofitted systems to use Illinois coal.
4. As an independent worker, produces written, photographic and video presentations of alternative energy projects; prepares energy analysis of builders' plans; analyzes combustion, steam distribution, air conditioning, etc. for energy efficiency; conducts energy management workshops for residential, commercial, industrial and institutional sectors of the community to encourage more efficient energy utilization; manages grants and contracts for low income energy efficiency; reviews requests for not-for-profit organizations for low income energy grants; evaluates grantee's service delivery capability and marketing strategy; assists and monitors grantee progress in weatherization programs; assists grantees with identification, verification and qualification; tracks utility utilization after weatherization to determine savings; performs energy audits for small business structures; reviews and evaluates grant applications; explains energy conservation programs to grantee; maintains directory of energy service, equipment and sales providers.
5. Performs other duties as required or assigned which are reasonably within the scope of the duties enumerated above.

DESIRABLE REQUIREMENTS:

Education and Experience

Requires knowledge, skill and mental development equivalent to the completion of four years of college with coursework in energy, economics, environmental studies, natural sciences, social sciences, education or related fields.

Requires three years of professional experience in program development of technical assistance, education, research or conservation of energy and natural resources or related subject areas.

Due to the nature of the work, a more desirable candidate for an individual position may have completed certain specified combinations of coursework and work experience.

Knowledges, Skills and Abilities

Requires extensive knowledge of methods and procedures utilized in determining the impact of project proposals on the State's resources.

Requires extensive knowledge of grants management.

Requires working knowledge of computer science.

Requires extensive knowledge of energy audits.

Requires extensive knowledge of energy conservation.

Requires extensive knowledge of computerized modeling and statistical packages.

Requires extensive knowledge of environmental laws and regulations.

Requires extensive knowledge of natural resource issues.

Requires extensive knowledge of solid waste management practices.

Requires working knowledge of educational techniques.

Requires extensive knowledge of Geographical Information Systems.

ENERGY AND NATURAL RESOURCES SPECIALIST III (Continued)

- Requires working of chemistry and biological activity.
- Requires working knowledge of sulfur chemistry and acid rain.
- Requires working knowledge of heat transfer and thermodynamics.
- Requires ability to work independently.
- Requires ability to analyze detailed information.
- Requires ability to transform information between alternative formats data, graphs narrative, etc.
- Requires ability to speak to groups.
- Requires ability to evaluate proposals for technical feasibility, program conformance and policy criteria
- Requires ability to communicate effectively, both orally and in writing.