

PART I

DEPARTMENT OF EDUCATION
STATE OF HAWAII

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Class Specifications for the:

DATA PROCESSING SYSTEMS ANALYST SERIES

Series Definition:

This series includes all classes of positions the duties of which are to supervise, perform and/or provide staff assistance and guidance in one or more systems analysis functions relative to Electronic Data Processing (EDP) services; i.e. the use of electronic digital computers for the storage and processing of data and the production of reports, tabulations and other output. Typical data processing functions are:

Systems Feasibility and Requirements Survey - Collection and analysis of information pertaining to problem definition and the feasibility of developing/modifying a data processing system and preparation of reports and recommendations. The analysis includes systems evaluation and recommendations for the development of revised or new systems, the development of a conceptual system and a general plan of action, including resources required, costs, and appropriate timetable for completion.

Systems Development and Design - Design of overall data systems, including collection and analysis of information resulting in detailed identification of the work processes to be automated and development of detailed systems, logic diagrams and charts, file structures, program modules, systems and operations documentation and manuals, and conversion and acceptance test plans.

Systems Implementation - Participation in system integration testing activities and conversion and implementation of new or revised systems. Implementation also involves the preparation of and presentation to personnel of appropriate training in the use of the system.

Counseling and Advisory Services - Consultation with departmental officials, employees and others regarding the desirability of developing data processing plans for the development and installation of systems; participation in planning committees; and assistance in providing training relative to data processing systems analysis and the operations of systems.

Classes in this series are concerned with the analysis and organization of manual and automated work processes to facilitate subsequent processing by electronic computers. Positions in this series are responsible for establishing and revising systems for the collection, organization and presentation of the information contained and processed within an organization. Involved are the analysis of the existing manual or automated system, if any, and preparation of reports and projects

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ranging from the conduct of feasibility studies for the development of data systems; the design of overall data systems; the development of systems logic diagrams and charts which detail subject matter actions and decisions and aid the implementation of developed systems; and assistance in the implementation and post implementation of the system after it has been developed. Duties may include the analysis of existing data systems where substantial revision of system design is necessary to meet new requirements or to correct existing problems and the performance of a variety of studies or activities pertaining to specialized systems problems.

Data processing systems analysis and design represent a series of steps in a sequence of activities intended to get work ready for computer processing. The sequence typically begins with a systematic review of what is to be produced and what source data are available (the requirements of the system), proceeds through more precise definition of problems or work to be done by computers, through detailed design of systems to get the work done, through precise programming of data and instructions for computers to follow, to the development of implementation guides and instructions to insure the successful implementation and utilization of the system. The payoff is the actual production of substantive work.

The Data Processing Systems Analyst typically does not work alone in these successive stages of systems analysis and design. Rather, the whole process is frequently carried out by a team, made up of subject matter specialists, line managers, data processing systems analysts, computer programmers, and others in varying numbers and combinations. Each kind of specialist contributes a particular kind of skill and knowledge to the joint effort; though all may participate in each of these stages of preparation, each may exercise a dominant influence at one stage or another.

Within a particular system, the finished design work of the Data Processing Systems Analyst typically establishes the condition for the beginning of the Computer Programmer's work. The Analyst, together with colleagues, usually identifies and describes in detail the basic data requirements and the work processes to be accomplished by the computer system.

Levels of classes in this series reflect significant differences in levels of duties and responsibilities. Each class in this series reflects different combinations of the following factors (generally called classification factors):

- a. Nature and Variety of Work
- b. Nature of Supervision Received by Incumbent
- c. Nature of Available Guidelines for Performance of Work

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- d. Originality Required
- e. Purpose and Nature of Person-to-Person Work Relationships
- f. Nature and Scope of Recommendations, Decisions, Commitments, and Conclusions
- g. Nature and Extent of Supervision Exercised Over Work of Other Employees
- h. Knowledge and Abilities Required

All of these factors are not discussed at each class level. The factors, when readily apparent in the discussion, have been combined at some class levels to avoid unnecessary repetition.

There are several aspects to the work of worker-level and project supervisor positions which have a major influence on the level of the position. These include:

1. The kind of system to be developed (operational vs. reporting systems): Operational systems are systems which produce the substantive work products of an agency (e.g. unemployment insurance, welfare or payroll checks). Reporting systems are systems which produce reports for management information needs or other indirect needs (e.g. periodic fiscal summaries of unemployment insurance or welfare dollars expended to be used by management to observe trends for program planning purposes or summaries of the cost of fringe benefits used by management in assessing the cost impact of collective bargaining contract terms). Generally speaking, operational systems present more systems analysis problems because of the variables which must be considered, the need to accurately accommodate a large number of current conditions and to reflect potential changes rapidly and accurately, the integration of the processes into the production work of the agency, the essentiality of accurate and rapid input and correction procedures, the consequences of error, and the impact on the clients of the agency.

The positions at the V level are frequently assigned responsibility for the development of operational systems while most reporting systems, unless unusually complex, are developed by positions at the IV level.

2. Extent of work involved and status of work when presented to the Data Processing System Analysts: DPSAs may be assigned the entire process

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of systems analysis, development, design and implementation of a revised or new system or they may be involved in one or more phases of the process. In some cases, DPSAs receive requests to design applications where the system requirements are well defined and the desired end product is specified (the fact that the ultimate end products may vary somewhat from the envisioned product due to refinement of the concept or technical difficulties during the progress of the work, does not change the fact that the user has performed the preliminary analysis as to the product needed and has made a preliminary decision to automate). However, in other cases, particularly in line agencies, DPSAs serve as an integral part of the management team and regularly participate in exploratory discussions and decision-making sessions with management on the potential utilization of electronic data processing. In such cases, the DPSA may be responsible for the preliminary review of work areas amenable to data processing, processing requirements and problem definition activities, as well as having a major responsibility for influencing determinations on the scope and nature of data processing systems to be developed as a staff advisor to the appropriate line department decision maker. This type of problem definition and participation in decision-making is a key determinant of the senior level (DPSA V) and above position.

Positions in line agencies are most likely to involve this type of problem definition coupled with decision-making. However, not all line positions function in this manner nor are all central agency positions precluded from participation in problem definition and decision-making.

For those projects in which the system requirements are well defined and specified, either by the user agency or by higher level DPSAs in the organization, V level positions normally must evidence exceptional strengths in other areas, such as supervision exercised, or the extensiveness and complexity of the scope of assignment and/or be required to apply exceptional expertise in such areas as telecommunications, data base management systems or other software/hardware aspects, to offset the limitation in this area.

3. Initial Design vs. Modification: For the most part, the specifications (including the level distinguishing characteristics) refer to the initial design of data processing systems. Such initial design work is usually more difficult than modification work which may be intended to incorporate a new item, the revision of a decision-making rule or the production of a new report. Consequently, positions assigned maintenance and modification as a major work assignment are rarely allocable above level IV. However, some

"maintenance" work, such as the restructuring of two or more existing systems in order to combine them into a single system, involves actual redesign and is of such complexity and magnitude that the work is comparable to the initial design of the system. Such assignments, consisting of major overhauls, are to be considered as substantially equivalent to initial design work in applying the criteria in the specifications.

4. Scope of System: DPSAs may be assigned a total stand-alone system (i.e. a system consisting of at least one file and a group of programs and procedures) or a subsystem or portion of a system (e.g. a subset or a group of programs which will be based on an existing or predetermined file and will perform one or more work processes which form a part of the total system) or assigned as a member of a team to work on a stand-alone system. Positions at the III level are normally limited to assignments which consist of the development of a subsystem of some complexity or a system which is simple and narrow in scope. Positions at the IV level frequently work on systems where the desired end product is stated but there are numerous alternatives to be considered and user work processes must be revised. They may also be assigned complex subsystems of extremely large systems where the individual subsystem is of sufficient scope to exist as a system in its own right but is being combined with other subsystems in order to permit utilization of a single file containing not only common data elements but also those unique to the different subsystems. Positions at the V level are involved, almost exclusively, in the development of complex systems (or the redesign of major systems, as described above). Such systems may include subsystems of the complexity described above as characteristic of the IV.
5. Supervision Exercised: Many DPSAs at the IV level and above are required to exercise supervision over other computer programmers and DPSAs (including, sometimes, positions at the same level) in conjunction with their responsibility for the design of a particular data processing system. The DPSA does not, in such cases, exercise full supervisory control over such positions and the added responsibility involved is equivalent to and generally credited, for classification purposes, through credit for the size, scope and complexity of the project involved.

Other positions at the V level and above have two or more permanently assigned subordinates and the DPSA is responsible for the full range of supervisory duties. This permanent supervisory responsibility over journeyman programmers and/or analysts can be used to offset limitations in problem-definition and decision-making in those settings which do not

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provide regular opportunities for the DPSA to participate in those activities or which contain limitations in major system development activities.

DATA PROCESSING SYSTEMS ANALYST I
(DATA PROCSSG SYSTS ANAL I)

8B.935

Duties Summary:

Receives orientation and training in systems analysis, principles and techniques, electronic computer uses and limitations, programming, the statewide electronic data processing system, State organizations, functions, and basic work flow patterns, and performs other related duties as required.

Distinguishing Characteristics:

1. Nature and Purpose of Work:

This is the entry-level trainee class in the Data Processing Systems Analyst series. It is designed to provide a career-oriented introduction to the background, philosophy, concepts and scope of the statewide electronic data processing system, a practical understanding of the organization, programs, and policies of the incumbent's employing department; and participation in orientation, instruction, directed reading, and on-the-job training in the areas of data processing, systems analysis, computer programming, and electronic data processing computer equipment. Work assignments are clear-cut, routine and provide experience in a variety of data processing systems analysis activities.

2. Supervisory Controls:

Positions at this level receive close supervision during the performance of work and training assignments. Specific and detailed instructions as to the tasks to be performed and the procedures to be followed are outlined at the time an assignment is made. Progress is continuously observed for compliance with instructions, thoroughness, and application of basic principles of data processing systems analysis in order to ensure appropriateness of completed work and to assess the trainee's potential and need for further training and development.

3. Guidelines Available:

At this level, employees receive orientation on available references pertaining to their work specialty and are responsible for becoming familiar with such guidelines as

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State laws, policies, procedures, manuals and directives; central agency and departmental policies, procedures and instructions; related precedents, policies, prescribed work methods and procedures, and operational guidelines. Strict conformance with explicit and detailed procedures and instructions is required.

4. Nature and Scope of Recommendations, Commitments and Decisions:

There is no responsibility for independent recommendations and decisions at this level.

5. Personal Work Contacts:

Person-to-person work relationships are incidental and do not constitute an essential part of the work. Trainees at this level are principally observers in contacts with organizations served.

6. Knowledge and Abilities Required:

Knowledge of: Statistics; report writing.

Ability to: Think logically; analyze data and draw logical conclusions; learn the role of the statewide electronic data processing system; learn the fundamentals of systems analysis and computer programming; learn pertinent techniques such as flow charting; read and comprehend machine manuals and other materials; speak and write effectively; prepare clear, complete and concise reports; maintain effective work relationships with others.

7. Typical Work Assignments:

Attends orientation and training sessions; learns the principles, concepts, work processes, regulations and reference materials fundamental to data processing systems analysis work; may occasionally accompany a higher level analyst on interviews and meetings as an observer; performs simple tasks to gain knowledge and develop skill in the application of work processes and techniques; may compile data, search records for data on a specific project, review completed systems flow charts, draft systems flow charts, draft manual procedures requiring minor revisions, and research specific subject matters with the intent of providing higher level analysts with data and other assistance for their projects. Work assignments may also include training in computer programming.

DATA PROCESSING SYSTEMS ANALYST II
DATA PROCSSG SYSTS ANAL II)

8B.936

Duties Summary:

As an advanced trainee, receives instruction in basic data processing systems analysis; performs a variety of assignments ranging from the simple to moderately difficult which do not require the services of a fully trained Data Processing Systems Analyst; and performs other related duties as required.

Distinguishing Characteristics:1. Nature and Purpose of Work:

This class is the advanced trainee level through which the trainee advances as part of his progression to performance as an independent worker. Assignments range from the simple to the moderately difficult and new matters are accompanied by explicit and detailed instructions concerning procedures, methods and desired results. Work requires the application of the principles, methods and techniques of systems analysis and computer operations. Complex assignments may be selected to progressively develop the employee for work at the next higher level. Positions may be assigned to assist in developing computer programs as a secondary assignment.

2. Supervisory Control:

Positions at this level receive close supervision on new aspects of the work and specific and detailed instructions, including the exact results desired and procedures to be used, are given with each such assignment. All work results and recommendations are reviewed for technical competence, accuracy and completeness. As the trainee's knowledge, abilities and skills increase, progressively difficult assignments are made for training purposes and supervision is gradually relaxed on routine assignments.

3. Guidelines Available:

Same as Level I except this level is expected to have increased familiarity as to location and kinds of resources available.

4. Nature and Scope of Recommendations, Commitments and Decisions:

Same as Level I. Any recommendations made at this level are reviewed by an analyst of a higher level or by the supervisor for soundness of analysis, thoroughness

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and accuracy in the details of the preliminary work and the application of good reasoning and judgment.

5. Personal Work Contacts:

At this level, a regular and necessary part of the work involves giving and securing simple and easily understood information of a factual character. Contacts with co-workers and operating personnel for whom a study is being made are to obtain and exchange such information and answer routine questions. Contacts with those other than coworkers have generally been initially established by a higher level analyst.

6. Knowledge and Abilities Required:

In addition to the knowledge and abilities required at Level I, must have a knowledge of basic governmental functions and organizations and the fundamentals of systems analysis and computer programming. Incumbents must also possess the ability to learn machine installation work activities and to document programs, operating instructions and procedures.

7. Typical Work Assignments:

Attends and participates in lecture and discussion sessions; performs and reports on required reading; receives orientation on State programs, recordkeeping and reporting systems, machine capabilities, and management needs for information; participates in machine installation work activities to learn computer operations, coding, diagramming and programming; drafts and tests selected segments of programs; keeps appropriate work records; accompanies a higher level analyst on interviews and meetings as an observer; and aids in the performance of data collection during such field trips.

DATA PROCESSING SYSTEMS ANALYST III
(DATA PROCSSG SYSTS ANAL III)

8B.937

Duties Summary:

Performs moderately difficult work of a technical nature in the analysis, evaluation and development of systems and procedures for the electronic machine processing of data; prepares reports of findings and recommendations; and performs other duties as required.

Distinguishing Characteristics:1. Nature and Purpose of Work:

This class is the first level of independent worker in the series. Work assignments involve the analysis and automation of systems where the design involves specified requirements and a fairly direct translation of existing work methods to computer processes, although some processing details may need to be changed and new forms developed, or other projects of comparable complexity. Automation is accomplished by means of integration of material into established data systems techniques, methods, applications, etc. Work processes analyzed are relatively uniform and stable, generally embrace one homogeneous body of subject matter at a time, and the impact of such work is limited due to the limited scope of the assignment.

Assignments may also involve the maintenance of larger, more complex systems including the development and implementation of minor changes/updates. Work assignments routinely encompass problems of average difficulty and complexity requiring the application of technical knowledge, skill and sound judgment in the use of fundamental data processing system analyses principles, techniques, standards and guides. Assignments are carried out according to well-established and clearly applicable precedents. May be assigned to develop computer programs as a secondary assignment.

2. Supervisory Control:

Functioning under general supervision, positions at this level are independent of continual observation of work results. A supervisor or team leader assigns work to positions at this level and explains the background of the problem, indicates the results or products expected, may indicate the methods which can be used, and allows discretion in selecting alternative methods which are defined by established practices and/or precedents rather than by innovation. Results of work are usually not reviewed for accuracy or completeness unless unusual problems and/or compatibility with other segments of the system are involved. In cases where unusual problems occur, work is examined closely for the accurate and effective application of pertinent guidelines.

3. Guidelines Available:

In addition to guidelines referenced at Levels I and II, positions at this level are expected to be thoroughly familiar with those guidelines applicable to a particular functional assignment.

4. Nature and Scope of Recommendations, Commitments and Decisions:

Decisions and determinations made at this level are based on clearly applicable procedures or instructions or on precedent decisions. Directly relevant and controlling precedents are usually readily available, and the work is conditioned by the prescribed parameters of the system or product desired. Recommendations and commitments, when delegated, are limited to resolution of limited, individual problems encountered in the course of developing the system.

5. Personal Work Contacts:

Personal work contacts at this level are characterized by the responsibility for maintaining effective working relationships with supervisors and subordinates of the organizational unit(s) being studied, programmer and machine personnel. Positions at this level may initiate contacts with operating officials and employees to obtain factual information on which higher level analysts may take action, to give easily understood information on the principles and concepts of data processing to help further the understanding of this specialty area, and to obtain data to further the completion of assigned projects.

6. Knowledge and Abilities Required:

In addition to the knowledge and abilities required at the II level, must have a knowledge of electronic computers, data storage media/devices and other peripheral equipment, their capabilities and general processes; computer programming techniques; common office machines and equipment; basic principles and practices of governmental accounting; and mathematics up to and including college algebra. Must have the ability to understand the legal and procedural requirements and the functions and organization of the programs under study; recommend procedures for conversion to electronic data processing; learn the principles and practices of public administration and research methods and procedures.

7. Typical Work Assignments:

Conducts studies of work processes, procedures, and operations relating to the conversion of data to electronic data processing; performs various fact-finding tasks and develops preliminary evaluations and recommendations; develops plans and procedures for implementing mechanization; analyzes, evaluates and makes recommendations on methods and procedures relating to assigned projects; may perform computer programming as a secondary assignment.

DATA PROCESSING SYSTEMS ANALYST IV
DATA PROCSSG SYSTS ANAL IV)

8B.938

Duties Summary:

Analyzes and evaluates the operating procedures, work methods and information needs of an organization; develops electronic data processing systems and other work procedures for the automation of processes and the production of data; develops plans for the implementation of recommended systems and processes; may supervise a project team including systems analyst(s)/computer programmer(s); and performs other related duties as required.

Distinguishing Characteristics:1. Nature and Purpose of Work:

This class consists of journeyman level data processing work involving a wide range of problems; procedures and work processes associated with specific data needs. Such work involves performing independent systems analysis of the work methods and practices relative to the information needs of specific programs and activities of a department; the design of projects characterized by many variables and steps and a full range of data processing problems; and the need to develop and recommend alternative approaches or a change in the scope of the project as problems and opportunities arise. Assignments require the analysis of several work processes, functions or procedures serving several purposes with some problems of coordination. Typically, work processes must be revised upon automation including such items as sources of data, means of collecting and distributing data, work flow and subject matter procedures. Systems addressed at this level generally consist of a number of subsystems that perform various work processes.

Assignments may also involve the maintenance of large and complex systems including the development and implementation of system modifications and improvements.

Positions at this level typically serve as:

- a. A departmental systems analyst whose application of systems design is primarily directed toward a portion of the department's overall data processing needs.

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- b. A systems analyst located in the central data processing agency who is assigned a specific aspect of one or more departments serviced by the central computer agency.
2. Supervisory Control:

Supervisory control over this level is general in nature. The desired end product is usually indicated and alternative methods which may be used, may be suggested, but not explicitly prescribed. Analysts at this level are expected to be sufficiently expert in their knowledge and judgment to warrant only a cursory review of their decisions. However, more immediate guidance and control are given when work projects are those which are normally assigned to a higher level analyst and require the application of new guides or technical knowledge. Technical review of completed work may also be made when the results will have significant impact on other existing or planned data processing systems.

3. Guidelines Available:

Controlling precedents, policies, procedures and decisions are not immediately apparent and are not self-applying to problems being analyzed by positions at this level. When pertaining to studies, decisions and determinations are based on regulations, laws, rules, instructions, policies, procedures and general data processing concepts and technologies which are not always directly applicable to the existing situations. In some cases, guides are non-existent because of the newness of major changes occurring in the field being studied. Some interpretations and adaptations are required to secure results which are compatible with sound principles of systems analysis and design.

4. Nature and Scope of Recommendations, Commitments and Decisions:

Recommendations, decisions and commitments made by incumbents in this level are limited to results obtained from analysis for data processing purposes of the assigned project area. Though the nature of recommendations, decisions and commitments made by incumbents in this level is similar in some respects to that described in the III level, their judgment and recommendations are heavily relied upon in making final decisions within the prescribed project.

Commitments on individual cases and on problems of a well-defined and recurring character, requiring the interpretation and application of administrative rules and regulations, have the effect of finality. On matters which are not well defined, or of a recurring nature, commitments made by this level do not commit the unit to a course of action.

5. Personal Work Contacts:

Personal work contacts are characterized by responsibility for maintaining effective relationships with employees, their supervisors, and officials of the organization for which a study is being conducted, and programmer and machine operation personnel. At this level, the analyst is relied upon for technical advice on solutions for problems or approaches to be taken in solving such problems in the area of electronic data processing. A position at this level is capable of readily giving and securing information on matters or problems of a non-recurring nature and in the explanation of or interpretation of facts pertaining to policies, methods, programs, plans or individual actions in his subject area.

6. Nature and Extent of Supervision Exercised Over Work of Other Employees:

Positions at this level may supervise computer programmer/data processing system analyst positions and subject matter assigned on a project basis, to work on the specific systems which are the responsibility of the systems analyst.

7. Knowledge and Abilities Required:

In addition to the knowledge and abilities required at the III level, must have knowledge of more technical aspects of data processing, e.g. data base/data communication concepts, and of the principles and practices of public administration; management requirements relative to data processing systems; and systems analysis and design. Must also have the ability to plan efficient layouts, workflow procedures and processes and then integrate these into a complete data processing systems plan.

8. Typical Work Assignments:

Formulates plans for the conduct of studies relating to the various work processes and procedures that may be converted to data processing systems; reviews records; interviews management personnel and employees; observes work methods and flow of work to secure necessary data; consolidates data and assesses and evaluates work processes and procedures that can be eliminated or consolidated; determines the feasibility of mechanizing various work processes and procedures; determines the kinds of machines required; develops and prepares detailed plans and procedures for implementing mechanization; designs forms for review and implementation by agencies concerned; prepares procedural manuals and operating standards; advises and assists management regarding various problems associated with conversion to electronic data processing; works in close cooperation with

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operations and computer programming personnel and with State level consultants in the field of data processing and computer systems and analysis; conducts containing analysis and evaluation of the effectiveness of systems and procedures; integrates systems development with similar data processing needs of other agencies; prepares correspondence and reports of work activities; and may perform computer programming as a secondary assignment.

DATA PROCESSING SYSTEMS ANALYST V
(DATA PROCSSG SYSTS ANAL V)

8B.939

Duties Summary:

Analyzes and evaluates the various objectives, operating procedures, work methods, and information needs of a number of interrelated organizational entities or programs which include substantial and complex problems, and are of sufficient scope and complexity to require oversight of several lower level analysts and/or computer programmers; develops and supervises the development of electronic data processing systems and other work procedures for the automation of work processes and the production of data; develops plans for the implementation of recommended systems and processes; is responsible for problem definition and participation in management decision-making and/or may supervise several analysts/programmers on a permanent basis; may serve as technical expert in a highly specialized, complex field; and performs other duties as required.

Distinguishing Characteristics:

1. Nature and Purpose of Work:

This class consists of work involving the analysis of major programs/areas of electronic data processing in the State government consisting of several subsystems which require integration and coordination and are of such scope as to require the assistance of several analysts/programmers. The processes, procedures or functions analyzed are typically in professional, scientific or highly technical areas; or in areas with work processes of equivalent operational complexity and are subject to frequent change. They may involve the operations of several major, organizational entities or agencies and the interfacing of major automated systems.

Assignments require developing solutions which frequently embrace the possibility of major changes in the organization of work processes and methods. The work requires that new approaches and previously unused methods be devised, but not that entirely new concepts be developed. The work involves responsibility for the

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coordination and integration of the work of other analysts and support personnel of a lower level, when serving as the supervisor of a unit studying a major functional area of an organization, or as a project leader for a major study.

Positions at this level typically serve as:

- a. A chief departmental data processing systems analyst who coordinates all EDP systems development for a line agency with limited to moderate data processing needs through a small staff of systems analyst/computer programmer positions. This involves supervision and participation in the development, maintenance and revision of automated systems for the total departmental information system under the general supervision of a subject matter administrator and/or chief of information systems, research, etc.
- b. A departmental data processing systems analyst located in a large line agency with major data processing needs, subdivided into functional areas of responsibility. The work of this type of position involves responsibility for all data processing systems development in one or more functional areas. (Work performed must be characteristic of this level, involving 1) varied, large and complex programs and requiring the integration of many complex and interrelated processes and procedures; and 2) serving as team leader with several subordinate computer programmers and/or lower level systems analyst positions.)

In either situation a) or b), the position is responsible for the preliminary review of processing requirements and problem definition, which precede the actual design phase, and is responsible for influencing determinations as to the scope of the data processing project (e.g. what work will be automated and how). The position demonstrates a management view as well as a technical data processing concern with feasibility, etc., in evaluating the desirability of automation or the scope of the system.

- c. A central agency position assigned to design/modify a major statewide electronic data processing system or to perform other equivalent work, meeting the characteristics of this level. The assigned system(s) generally involves several interrelated organizational entities and/or a large number of complex and interrelated processes. The scope of work requires that the position serve as a team leader with several permanently assigned subordinate computer programmers and/or lower level systems analyst positions and provide continuing liaison with the assigned line department(s) in assessing data processing needs, the feasibility of

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automation, the cost/benefit of automation, and in negotiating compromises with the agency involved to accommodate system limitations and/or the need for compatible data basis between systems.

- d. A central agency position which serves as the technical expert in a specialized, highly technical field, such as data base management, teleprocessing, operating software or other comparable area.

2. Supervisory Control:

Supervision received is very general in nature. Positions at this level are assigned to develop the project plans outlining the methods to be used, a proposed timetable, and a description of the general nature of the final expected product. Upon approval of the plan by the supervisor, work proceeds independently, unless a significant change in the plan is indicated during the progress of work. The final product is limited to a review for administrative decisions. This level analyst has complete freedom from review for technical soundness of the work completed.

3. Guidelines Available:

Determinations are based on specialized knowledge and on precedents and decisions which can be interpreted and applied only through the use of experienced judgement. Different guides which point toward conflicting decisions, general types of guides which deal with different kinds of situations, and guides which indicate significant management considerations or commitments are used in performing work at this level.

4. Nature and Scope of Recommendations, Commitments and Decisions:

Positions at this level include representing their work organization on matters of importance to the assigned program. Final authority to make commitments is limited by established policies, precedents and administrative regulations. In the central agency, recommendations are presented to the branch and, sometimes division head, in final form for consideration. In a line department, recommendations are presented to the chief of data processing or the department head in final form. In any event, final work products, based on decisions made at this level, are reviewed primarily for conformance with administrative policies and procedures, budgetary impact, etc. Actions taken at this level may form precedent for other related activities, and work assignments may include problems which require consideration of or recommendations for new or amended legislation for successful solution.

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5. Personal Work Contacts:

Personal contacts at this level involve the giving or obtaining of information on matters of major significance. The ability to obtain assistance, cooperation, support or acceptance is significant at this level. Interviews and meetings with administrative and program officials are frequently involved. Contacts are for the purpose of gathering factual and subjective data from a wide variety of people at all levels in the State government, private industry, and other sources as well as obtaining acceptance.

6. Nature and Extent of Supervision Exercised Over Work of Other Employees:

At this level, supervision is exercised over members of a team or unit consisting usually of subordinate computer programmer and/or data processing systems analyst positions. A subject matter specialist(s) is frequently detailed to the team. Work activities involve the coordination and determination of priorities and work assignments of subordinate staff and the review of their work for technical adequacy and consistency with overall project needs.

7. Knowledge and Abilities Required:

In addition to the knowledge and abilities required at the IV level, positions at this level must have a thorough knowledge of data processing technology and techniques including teleprocessing, data base management, etc.; knowledge of the principles and practices of supervision; and the ability to plan, organize and direct the work of others.

8. Typical Work Assignments:

Plans and carries out various fact-finding tasks to secure pertinent information on the electronic data processing needs and problems of departments; conducts studies related to work flow, work measurement, time distribution, organizational and functional relationships, forms design, etc.; meets with and interviews personnel from various levels of management and operations; analyzes and coordinates subsystems; determines the feasibility of conversion of operations and procedures to electronic data processing; analyzes procedures from the standpoint of feasibility of using different machines, their capacities, cost, etc.; prepares comprehensive reports of findings and recommendations; prepares overall plans and develops detailed procedures and processes for conversion to machine processing utilizing current technologies, such as teleprocessing, data base management systems, etc., and including the preparation of flow charts and functional block diagrams; integrates the various systems and procedures with the needs and requirements of the various agencies wherever possible; in a line department, works in close cooperation with representatives of staff

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agencies; in the central agency, works in close cooperation with representatives of operating departments; prepares and maintains procedural manuals; may conduct management studies associated with other program or management objectives and needs; prepares reports of work activities and correspondence; reviews work results and follows through to see that management and staff officials have a clear understanding of problem areas; provides guidance and assistance in implementing recommendations accepted by administrator of units serviced; supervises a group of analysts and/or programmers and support personnel in specific program areas as a unit supervisor or team leader; coordinates work performed with supervisors of other functional areas; and trains lower level analysts as required.

DATA PROCESSING SYSTEMS ANALYST VI
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8B.940

Duties Summary:

Plans, supervises and coordinates an extensive electronic data processing program for a State department or serves as a section chief within the central electronic data processing agency; and performs other duties as required.

Distinguishing Characteristics:

1. Nature and Purpose of Work:

This class involves responsibility for the supervision and administration of a major segment of the statewide automated data processing system. Positions at this level typically serve as:

- a. A chief departmental analyst responsible for the design and maintenance of all systems within a State department characterized by a substantial number of varied programs which have been or will be adapted to electronic data processing systems within the immediate future. There is a moderate number of subordinate staff which usually includes systems analysts, computer programmers and support clerical personnel allocated to project teams or other operational work units. Positions at this level report directly to the department head to receive direction in relation to agency objectives and policies and participate actively in the problem definition and decision-making process, and administrative matters such as developing long-range program plans, the data processing budget, etc.

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- b. A section chief within the central electronic data processing agency with a staff of systems analyst and computer programmer positions divided into several project teams and engaged in the design/modification of systems for a major segment of the statewide, automated data processing system.
- c. A section chief within the central agency with a staff of systems analyst and computer programmer positions engaged in the provision of staff administrative services, technical evaluation services, or developmental work in a highly technical field, such as data base/data communications software, or other comparable area.

2. Supervisory Control:

Work is performed under general direction and is based upon current objectives. Results desired are stated only in general terms of overall objectives.

3. Guidelines Available:

Available guidelines and precedents are limited in usefulness or are largely lacking. Decisions and determinations are, therefore, based on specialized knowledge and the interpretation and adaptation of legislation, policies, and rules and regulations.

4. Nature and Scope of Recommendations, Commitments and Decisions:

Positions at this level are assigned responsibility for representing the work organization on matters of importance to the whole program involving final decisions concerning the direction of work and changes in or discontinuance of important lines of investigation. Recommendations made by this level are usually considered final. This level has full responsibility for decisions regarding the use of assigned staff resources within established priorities. Completed work and reports are reviewed to evaluate overall results. Line agency positions develop, justify and defend resource requirements and budget requests.

5. Personal Work Contacts:

Contacts are for the purpose of developing working guidelines and agreements with the operating unit(s) served, for developing and maintaining a clear understanding of the principles, concepts and practices underlying a particular functional area in the specialized field of electronic data processing systems analysis, for developing/interpreting agency/departmental policies and procedures and may include responsibility for ongoing multi-agency relationships covering joint processing and for legislative testimony.

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6. Nature and Extent of Supervision Exercised Over Work of Other Employees:

Supervision at the departmental level is exercised over several project teams and/or other groupings of employees consisting of systems analysts, computer programmers and clerical support positions. Work involves coordination of work of subordinates in the design/modification and operation of subsystems of the department in regards to departmental and program objectives. In the central agency, a section chief position generally supervises project teams in either the development of application systems or a substantial staff engaged in provision of staff/administrative/technical evaluation services.

7. Knowledge and Abilities Required:

In addition to the knowledge and abilities required at the V level, must have knowledge of the principles of administration and the ability to administer an assigned electronic data processing office.

8. Typical Work Assignments:

Plans, directs and coordinates systems analysis relative to a major segment of the statewide automatic data processing system; schedules activities and/or projects; evaluates staff work, assuring compliance with procedures, schedules and instructions; drafts procedural manuals and other guide materials; may perform systems analysis evaluations of operations which are predominantly professional, scientific, highly technical or of an equivalent subject matter and operational complexity and subject to frequent changes in workloads, programs and organization when workload requires; supervises subordinate analysts and team/unit leaders, evaluating their performance and providing training as needed.

Due to the transfer of authority to the Department of Education to administer its own Civil Service System pursuant to Act 51 Session Laws of Hawaii 2004, this is an adoption of the class specifications for the Executive Branch Civil Service classes

Part I

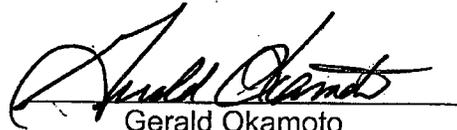
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DATA PROCESSING SYSTEMS ANALYSTS I, II, III, IV, V & VI by the Department of
Education Civil Service system.

DATE APPROVED: MAR - 9 2006

EFFECTIVE DATE: JUL - 1 2005



Gerald Okamoto
Assistant Superintendent
Office of Human Resources