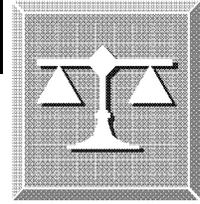


TS-32 February 1961

**General Schedule
Position Classification Standards**



WCPS-2 August 2002

**POSITION CLASSIFICATION
STANDARD
FOR
INDUSTRIAL SPECIALIST
SERIES, GS-1150**



**Workforce Compensation
and Performance Service**



Industrial Specialist Series

GS-1150

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SERIES DEFINITION

This series includes positions that require primarily a practical knowledge of the nature and operations of an industry or industries, and the materials, facilities and methods employed by the industry or industries in producing commodities. These positions involve the administration, supervision or performance of one or more of the following functions: (1) developing and carrying out plans for the expansion, conversion, integration or utilization of industrial production facilities, either to meet mobilization or strategic requirements or to strengthen the industrial economy; (2) furnishing technical information, assistance, and advice concerning facilities, machinery, methods, materials and standards for industrial production (which may include exploration, extraction, refining, manufacturing and processing operations); (3) developing and/or administering provisions or regulations covering such matters as materials allocation, tariffs, export-import control, etc.; (4) conducting surveys of industrial plants to evaluate capacity and potential for production of specific commodities; (5) planning, evaluating, and maintaining technical surveillance over Government production operations, either in contractor plants or in Government-operated plants; or (6) performing related functions which require essentially similar knowledge as the functions listed above.

EXCLUSIONS

1. Positions that require knowledge of the marketing, distribution, and consumption of commodities, rather than knowledge of industrial production operations. These positions are covered by the [Business Analyst Series, GS-1140](#).
2. Positions that require the application of professional scientific or engineering knowledge in the solution of problems relative to production of commodities. Such positions are classifiable to appropriate series in the [Engineering Group, GS-0800](#), the [Physical Sciences Group, GS-1300](#), or the [Biological Sciences Group, GS-0400](#).

NOTE: See the introductory material in the classification standards for the [Engineering Group, GS-0800](#), for criteria distinguishing between the use of the professional engineering series and the nonprofessional technician series. Some positions concerned with the narrower technical aspects of production engineering functions are classifiable in these nonprofessional series. See also exclusion 3, below.

3. Positions involving performance of such functions as time and motion study and analysis of work measurement data, when the knowledge required pertains to the techniques associated specifically with such functions, are classifiable to the [Management and Program Clerical](#)

[and Assistance Series, GS-0344](#). Other positions may involve similar functions (e.g., time and motion study) along with other functions or techniques, in the study, analysis, development, and improvement of shop and manufacturing methods, procedures, layouts, equipment and standards, requiring primarily technical (but not professional) knowledge of industrial processes and equipment. These latter positions are covered under the industrial specialization in the [Engineering Technician Series, GS-0802](#). (These positions were included in Parts I and III of the Production Specialist Series, GS-1152. That series is now abolished, and the code GS-1152 is assigned to a new series, Production Control. The standard for this new series was published in April 1960 as Part II of the Production Specialist Series.)

4. Positions requiring the application of professional knowledge of economics in the investigation, analysis, and interpretation of the economic conditions resulting from business and industrial practices, and the development of economic policies for promotion of trade are classifiable to the [Economist Series, GS-0110](#). While Industrial Specialists may need to be aware of the trade practices and economic status of the industry area of their assignment, they are not concerned mainly with these aspects, nor are they required to possess or apply a professional knowledge of economic theories and techniques in accomplishing their work.
5. Positions concerned with the direct management of an industrial production activity, including related and support activities, such as engineering, quality control, transportation, supply, etc., with responsibility for determining requirements for facilities, funds and manpower. Such positions are classifiable to the [General Business and Industry Series, GS-1101](#). (These positions were formerly covered by Part IV of the Production Specialist Series, GS-1152, which has been abolished.)

The determination as to whether certain other positions, found in a number of different programs and presently classified as Industrial Specialists, Commodity-Industry Analysts, or Production Specialists, should be classified in the GS-1101 series must be based upon the knowledge required to perform the assigned functions. For instance, if knowledge pertaining to (1) the materials and operations required to produce a commodity, and (2) the distribution, sales and consumption patterns relevant to that commodity are equally important to successful performance of assigned duties, the position is classifiable to the [General Business and Industry Series, GS-1101](#), since it combines equally the characteristics of the [Business Analyst Series, GS-1140](#) and the Industrial Specialist Series, GS-1150. As a further example, some industrial mobilization planning assignments require the application of as much of the buying and selling techniques and skills characteristic of the [Contracting Series, GS-1102](#), as of the industrial production knowledge which are characteristic of the Industrial Specialist Series, GS-1150. In these positions, the knowledge and skills required to carry out the function fit most closely within the definition of the General Business and Industry

Series, GS-1101. Also, many "mixed" positions, concerned with a range of functions pertaining to a commodity group, have been classified in the Commodity-Industry Analyst Series, GS-1151-0, but with the publication of this new standard for the redefined Industrial Specialist Series, GS-1150-0, the Commodity-Industry Analyst Series is abolished.

6. Positions that have responsibility for planning, scheduling, analyzing, or expediting the use of materials, man-hours, and machines to accomplish specific production operations or workload are classifiable in the [Production Control Series, GS-1152](#).
7. Positions concerned primarily or exclusively with utilities, services, wholesale and retail trade, finance, insurance and real estate industries are not included in this series, but are classifiable in other specialized series in the [Business and Industry Group, GS-1100](#).

COVERAGE

The industries with which positions in the Industrial Specialist Series are concerned are those of a manufacturing nature, or those having extensive mechanical production operations. The mechanical production and processing activities in agriculture, forestry, fisheries, mining, and construction are included. Positions in the Industrial Specialist Series are found in agency programs (1) that render services to, or exercise a form of regulatory control over industry, and (2) that are concerned with production activities in connection with procurement programs, whether in Government-operated plants or contractor's plants. Industrial specialist positions in both of these types of agency programs require basically similar knowledge. For example, evaluation of the capability of a particular industrial plant to produce certain commodities calls for consideration of essentially the same facts or factors, whether the result of the evaluation is the assignment of a Government procurement contract, or the determination of the technical and financial assistance which should be given under the provisions of the Small Business Act. In either case, the evaluation would cover the suitability of plant engineering and production skills, raw material resources, and the like. In the same manner, advice or assistance concerning the development of improved production methods and practices requires application of the same basic knowledge of production operations, whether the methods are to be applied by private industry or by Government production activities. (At the entrance levels, positions in this series require the ability and capacity to acquire the substantive knowledge pertaining to industry operations, rather than the possession of such knowledge.)

SPECIALIZATIONS AND TITLING

The basic titles to be used in classifying positions in this series are industrial Specialist and Supervisory industrial Specialist. Since most positions in this series require a specialized knowledge of a particular industry, this standard provides for the use of certain industry specializations which are listed and defined in the Appendix to this standard. As appropriate, the industry specialization is to be indicated, parenthetically, following the basic position title, e.g., Industrial Specialist (Chemicals).

When positions require the incumbent to apply a substantial knowledge in two of the specialized fields, both industry specializations are to be designated parenthetically in the title, e. g., Industrial Specialist (Textiles and Leather). If an incumbent is equally concerned with more than two of the industry specializations, the parenthetical designation, "General," should be used only in those instances when it would be impractical or unrealistic to identify one or two industry specializations as the incumbent's paramount area of concern.

The industry specialization structure is based upon the plan of the "Standard Industrial Classification Manual," published by the Bureau of the Budget, which groups together the industrial operations that use similar facilities, materials and methods of production. The extent and breadth of industry specialization in positions vary considerably among agencies. It is not feasible to reflect all these variations of industry subdivisions in the specialization structure of this standard. The fields of specialization listed in this standard represent, in most instances, the "Major Group" classification in the manual. However, where there is widespread use of some narrower Group specializations, they are reflected in the listing, e.g., "aircraft," "shipbuilding," "missiles."

In order to facilitate recruitment and optimum utilization of personnel, positions should be classified to the broadest possible field of specialization. It is recognized that the functions or responsibilities of certain positions require recruitment or appointment of a person with background or experience pertaining specifically to a narrow industry segment or field within one of the groups listed below. In such instances the narrower field should be indicated in the classification title of the position, e.g., Industrial Specialist (Iron and Steel) rather than Industrial Specialist (Primary Metals). Such usage should be confined only to those cases in which it is absolutely essential that selection of persons to fill the position be limited to those having intensive experience in the narrower field.

THE EVALUATION PLAN

Classification Criteria

Three classification factors are used in the evaluation plan for the nonsupervisory positions covered by this standard:

Factor 1. Scope and Complexity of Assignment.

This factor reflects the scope and complexity of the assignment with respect to the industry field with which it is concerned. The grade-level criteria are expressed largely in terms of (a) the number and range of industries or industrial operations, and (b) the variety and complexity of end items, and of production facilities and processes, with which the assignment is concerned.

Factor 2. Availability of Guidelines and Originality Required.

This factor reflects (a) the extent to which an incumbent's assignments are governed by agency policies and precedent actions, and (b) the degree of judgment and originality required by the incumbent in developing or applying agency policies and procedures in the industry area assigned.

Factor 3. Level of Responsibility

This factor reflects (a) the extent to which an incumbent is authorized to make recommendations or commit his organization on specific cases or to a course of action, (b) the nature of person-to-person contacts, and (c) the kind of control exercised over the work of an incumbent by his supervisor.

Application Of Criteria Contained In The Factors.

Positions are evaluated in terms of the criteria presented at the various degrees of the three basic factors. Three degrees of intensity are described for each of the three basic factors. These described degrees are designated "A," "C," and "E." Intermediate degrees "B" and "D" are not described but are intended for use when appropriate. The use of degrees B and D is appropriate when a position clearly falls between two of the described degrees of a particular factor, or when, for example, a position compares with degree A in some respects and with degree C in others.

For ease of converting combinations of the various selected degree levels to appropriate GS-grade levels, point values have been assigned to each degree, i.e., all A degrees have a 2 point value, B degrees --4 points, C degrees -- 6 points, D degrees -- 8 points, and E degrees-- 10 points. The degree that best characterizes a position is selected for each factor. The point values for each of the three degrees selected are then totaled. The table on page 17 is to be used to convert the total point value for a position to the corresponding grade level.

It is not the intent of this standard to establish a ceiling grade of GS-14 for nonsupervisory positions. It is recognized that there are some positions that involve assignments which exceed to a significant extent the level of difficulty and responsibility represented by degree "E" in at least one of the factors in this standard. Because such assignments are unique in most cases, it was not considered feasible to identify them in a standard degree pattern. Positions involving such assignments should be evaluated by comparison with the criteria in this standard and by comparison with related positions classified under other published standards.

FACTOR 1

SCOPE AND COMPLEXITY OF ASSIGNMENTS

As indicated under Coverage, the positions to which this standard applies are located in programs or functions that vary considerably in content and objectives. The major kinds of programs or functions are (1) advice and technical assistance to private industries, (2) regulatory control of industries, in such matters as export-import licenses, tariffs, and materials allocations, and (3) planning, evaluation and surveillance over production operations under Government manufacturing and procurement programs for current needs and for mobilization requirements. Within these broad functional areas there are many variations in the kinds and combination of tasks performed by industrial specialists.

The criteria in the degree definitions below do not reflect level distinctions between different kinds of tasks, but are intended to measure difficulty in terms of the scope and intensity of knowledge required to carry out the duties of a position. These criteria reflect the range of required subject-matter knowledge, corresponding to the nature and range of operations in the industry or industries encompassed in an assignment, to the variety of actions or decisions for which the industrial specialist is responsible, and to the intensity of consideration that he must apply in arriving at such decisions.

The levels depicted for a given complexity or range of industrial operations and processes, under the degrees below, assume the performance of functions that require comprehensive knowledge, and consideration in some depth and detail, of the production facilities, materials, resources, processes and methods, and the nature and organization of the industry or industries involved.

The exercise of such depth of knowledge and consideration regarding the range and variety of industrial operations reflected in typical assignments under degree E represents much greater responsibility than does the exercise of the same degree of knowledge with respect to the narrow range of operations indicated in degree A.

In some industrial specialist positions, however, the functions performed may concern a wide range of industries and not require detailed knowledge of the specific nature of any, or more than one, of the industries involved. This is true, for example, of some positions that have mobilization planning responsibility in an agency's regional procurement activity. The incumbents of such positions may, over a period of time, be assigned responsibility for obtaining mobilization production commitments for items produced by a wide variety of industries. In carrying out such assignments, an industrial specialist may need primarily an intensive knowledge of the industry that produces the majority of the assigned items, plus a general familiarity with the industrial operations involved in the manufacture of various other assigned items. A position of this nature would not be given full credit under Factor 1 for the variety or range of industries with which it would appear, on the surface, to be concerned, since for most of the industries concerned, the industrial specialist would not require the depth of knowledge expected at degree E.

A further example of a position which would not receive full credit under Factor 1 for variety of industries involved is one with the following kind of responsibility: The function or purpose of the position is confined to performance of preliminary surveys of industrial plants or concerns to determine their eligibility to bid for Government contracts. Such surveys involve consideration or investigation of a few easily determined facts or "blocks" of information about the general type and quantity of production of which the plant is capable, its shipping facilities, prevailing labor market and raw material resources, record of financial stability, and the like. While these surveys may cover plants in a wide variety of industries, they do not require detailed or specialized knowledge concerning any of these industries.

In contrast to positions such as those just cited, some positions which appear at first glance to be concerned with a very narrow range of industrial operations actually require consideration of a wide range of industries, and application of a comprehensive knowledge of the variety of operations involved. Such a position is typified by the second situation under degree E, in the example of the "industrial diamonds" assignment. As indicated there, the person carrying out this assignment is not concerned merely with the characteristics of industrial diamonds and how they are produced; rather, his major concern is with the wide range of industries and industrial processes in which industrial diamonds are used.

Each degree under Factor 1 is defined in terms of several characteristics, each of which is particularly applicable to one of the major types of function or program in which industrial specialist positions are found. (To illustrate: Under degree C, the third characteristic pertains to the importance or extensiveness of controls required over items involved. If the responsibilities of a position do not concern the exercise of such controls, even though the assignment deals with commodity items which in themselves meet this characteristic, this degree characteristic would not be applicable to such a position.) It is possible for more than one characteristic in a degree, or in different degrees, to be applicable to a position. When this occurs, the position should be evaluated at the level of the matching characteristic most significant in light of the program in which the position is located or the purpose which it serves.

The parenthetic examples of products or commodities cited under the degree definitions do not represent any rigid classification of complexity. They are intended only as relative indications of the complexity for each degree.

Degree A (2 points)

Assignments at this level have one or more of the following characteristics:

1. Pertain to a narrow range of industrial operations, from the standpoint of the facilities or processes involved in manufacturing or production activities. Fabrication of products, for instance, involves operations such as stamping, stitching and hand assembly, without requirement for close tolerances or similarly exacting techniques. (Example: A mobilization planning assignment covering production of field pack items, such as shelter half, blanket, mess kit and gas mask.)
2. Concerned with products in which developments relative to structural and materials design normally do not bring about significant changes in the facilities or processes required to produce them, or in the organization or economic status of the industry involved. (Example: Stainless steel cutlery for household or domestic services use.)
3. There is little activity with respect to regulation or control of the products or materials involved, from the standpoint of export-import quotas, tariffs, or allocation for strategic use. (Example: An assignment, usually of a training or developmental nature, covering a commodity or group of items of non-critical nature insofar as the nation's strategic industrial capability is concerned. Within the larger commodity area of Chemicals, an assignment involving the administration of tariffs on Salt of various types would be evaluated at this degree.)

Degree C (6 points)

Assignments of this level typically have one or more of the following characteristics:

1. Assignment is concerned with a variety of types of products or commodity items, ranging from those for general consumption to those designed for specialized technical and industrial use. The production of these involves a variety of kinds of facilities, machinery and tools, processes, and basic materials. Production operations involve complex machining, heat treating, molding, extruding, milling and similarly complex or sophisticated techniques. (Example: An assignment concerned with the manufacture of pottery products for household, scientific, technical and industrial uses, involving different producers, a considerable variety of formulae for basic materials and specialized tools and processes for forming, treating and finishing products.)
2. The assignment deals with an industry where the frequent introduction of new items and materials requires retooling, new skills, reorganization of production setup and processes; these have significant impact on the organization, operations and economic status of the industry concerned. (Example: An assignment involving advisory and promotion service to an industry producing glass and glass products, where there is development of new types of glass (pyroceram) for use in military applications such as guided missiles, and for household products, including glass tableware.)
3. The importance of the assigned commodity items to the national economy and the impact of export-import operations upon the industry involved require fairly extensive application of such measures as trade agreements, export-import quotas, or tariffs. (Example: Sporting goods, cameras, or similar commodity items which are highly competitive in the world market.)

Degree E (10 points)

Assignments of this level are concerned with materials or products which are complex in nature or use, employed for general consumption, industrial, scientific, or technologically complicated strategic uses. Assignments encompass activities in a number of distinct major industries, and require a comprehensive understanding of their organization, operations, and production facilities and processes (note that care should be exercised in determining the applicability of this degree level to positions, in the light of the knowledge required -- see the introductory discussion to Factor 1, above). This multi-industry involvement may stem from different situations, such as the following:

1. Assignment is concerned with highly complex products or types of equipment designed normally for industrial, scientific, or strategic use. End products are composed of a variety of highly specialized components which are produced by different industries, each with its peculiar organizations, facilities, and processes. (An example of such an assignment is the development of the "program," or overall plan and schedule, for the contract production of a specific type of supersonic aircraft. The manufacture of the components requires a variety of specialized producers, i.e., metals, plastics, electronic guidance and telemetry instruments, fire control system, engine and fuel system, airframe and accessories. The rate of development of such an end product is so rapid that many changes in systems, procedures and techniques occur during its production.)
2. Assignment is concerned with basic materials or a group of primary products which are required for and used extensively in the production operations or end products of a wide range of industries. (Example: Determination of national stockpile requirements for industrial diamonds. This material, in a wide variety of types and qualities, is required throughout almost all industries, in metal shaping and finishing operations such as in machine tools and in dyes for drawing extremely fine wire. The person determining stockpile requirements must consider (a) the kinds and amounts of strategic material and equipment that must be produced by the various industries in an emergency period, (b) the types and amounts of machinery or tools using industrial diamonds, that will be required in such production, and (c) the type and amount of diamonds needed to support the required production. The person carrying out this assignment must have a thorough understanding of the natural resources and economic factors affecting the supply of industrial diamonds, as well as of the specific uses made of industrial diamonds.)
3. Assignment concerns providing assistance and service to a number of industries producing a group of related consumer commodities (e.g., Textiles, or Appliances encompassing about 30 related industry groups.) This involves developing recommendations and plans for protective or regulatory controls, promoting domestic industrial capability, planning to meet strategic requirements, and the like. The Industrial Specialist must assess the impact of such factors as changing technology, competitive foreign production, strategic use requirements and changing consumer use of the commodities involved. In doing so, he employs a thorough knowledge and understanding of a great variety of production materials, resources and characteristics, manufacturing and processing methods and facilities used in producing the commodities, both here and in foreign countries. (Note that care should be exercised in determining the applicability of this degree level to positions in the light of the knowledge, required. See Introductory discussion to Factor 1, above).

FACTOR 2

AVAILABILITY OF GUIDELINES AND ORIGINALITY REQUIRED

Two premises underlie the definitions of degrees under this factor. The first is that the scope and specificity of available guidelines relate directly to the nature of the mission and the organizational location of the activity or office in which a position is located. Degree progression is not portrayed in terms of organizational level, however, since relationships between levels such as department, bureau, division, field office, and the like, vary greatly between departments or agencies, with respect to responsibility for issuing governing regulatory and directive material.

The second premise is that the degree of originality required in carrying out assigned functions usually bears a direct relationship to, and is governed by, the extent to which published or stated guidelines apply to or control the work to be done.

Degree A (2 points)

The incumbent (who is usually receiving training) performs his work within a framework of specific operating procedures. The matters on which he recommends or takes action deal recurrently with similar situations or problems and are covered by clear-cut precedents and guidelines.

Degree C (6 points)

The incumbent has responsibility for adaptation and interpretation of program directive material for application to the individual cases or the specific situations which his assignment covers. The position is usually located in an activity which carries out a segment (based, for example, on geographical area, functional phase, or industry subdivision) of a program established and directed by a higher-level organization. The activity in which the position is located operates within the limits of the objectives established by the organization having overall program responsibility. These objectives and the general means of their accomplishment are set forth in various forms, such as mission and policy statements, delegations of authority, and procedural manuals.

To apply the governing objectives and directives to the specific situations with which he deals, the incumbent must thoroughly understand the role of his position in relation to the general aims of the program. He must be cognizant of the characteristics and peculiarities of the particular industry "community" with which his assignments are concerned, and of the immediate effects of his activities upon that community.

The following types of assignment illustrate the conditions typical of degree C, in comparison with those typical of degree E :

1. In a regional office, an industrial specialist is assigned the job of locating and evaluating the capacity of manufacturers to produce a particular type of machine tool. The organization which has the overall responsibility for the procurement of machine tools for a military department has issued policy guides which stipulate, among other things, that:
 - a. The procurement program is designed to encourage dispersion of production capability throughout the country to manufacture machine tools, so that the nation's machine tool resources would not be crippled in the event of disaster in one or more concentrated production areas.
 - b. Production of the particular machine tool in question will be contracted to small business firms to the maximum extent possible. The incumbent is cognizant of (1) the kind of facilities and skills required to produce the machine tool under consideration, (2) the fact that the raw materials needed for the machine tool must be obtained from sources which are distant from the producers in his region, and (3) the fact that another region has been designated to receive preference on Government contracts because of widespread industrial unemployment. He finds that, while there are plants in his region capable of producing the machine tool, the difficulty in obtaining raw materials will make unit costs disadvantageous.

Using all the facts at hand, he recommends that any immediate procurement of the machine tool be effected elsewhere than in his region. He may further investigate the desirability of developing capability within his region for production of the raw materials which would be needed for production of items in addition to machine tools.

2. The foregoing is typical of degree C in that the tasks discussed constitute "adaptation and interpretation of program material for application to . . . individual cases . . . which his assignment covers."
3. In comparison to the above, degree E, further described immediately below, would be typified by the position of the Industrial Specialist who would have studied the entire machine tool industry in the light of the current and foreseeable machine tool requirements

of the military department. The incumbent of this position, located in the organization cited above as having overall responsibility for the procurement of machine tools for the department, would develop and recommend the policies and guidelines which the various subordinate offices would follow with regard to procurement and production of machine tools.

Degree E (10 points)

Assignments are primarily concerned with the study and development of regulatory and directive material, systems and procedures for establishment and implementation of agency programs (see the bracketed material under degree C, above.). The work involves explanation of the needs or purposes which the program must serve with respect to Government and industry; analysis and interpretation of enabling statutes and orders; and translation of these into proposed documents which will govern the operating offices or activities which will carry out the program. This requires anticipation of the overall effect of the program and the action which the agency must take to get the program into operation.

In carrying out such assignments, the Industrial Specialist must apply a thorough knowledge of the organization which has responsibility for program direction, its administrative and operational framework, and its specific relationships to other Government agencies having kindred functions and programs. He must also have a comprehensive knowledge and understanding of the way in which that segment of industry with which his assignment is concerned (e.g., an entire industry, or those portions of a number of industries involved in the production of complex equipment systems) is affected by the programs of his agency

FACTOR 3 LEVEL OF RESPONSIBILITY

Degree A (2 points)

The incumbent works under close supervision, and the actions which he takes are subject to intensive control and review.

Assignments may cover a range of functions or activities, for the purpose of providing training and development toward full performance levels.

Work assignments are usually accompanied by specific instructions as to objective and methods of accomplishment.

Degree C (6 points)

In carrying out his regularly assigned functions and responsibilities, the incumbent receives supervision mostly in the form of review of completed work, or observation' of the results of his work, for adequacy. Upon the assignment of new kinds of work or unusual cases or problems, he is given general guidance on objectives to be achieved, and on approaches or methods that may be followed in reaching those objectives.

Within well-defined bounds of delegated authority, and in accordance with directives that indicate normal courses to be followed, the incumbent takes final action on the cases or problems which constitute his regularly assigned function. He must be able to discern the non-routine situations which require special attention or policy decisions, and refer such to the proper authority for action.

The incumbent has direct personal contact with management representatives of industrial firms or other Government offices in obtaining information and/or furnishing technical advice or information regarding industrial production methods, controlling legislation or regulations, and similar matters. He obtains prior instruction from superiors with respect to resolution of problems of unusual nature or scope, or those which have policy implications.

Degree E (10 points)

The work situation at this level requires that the incumbent:

1. Develop and recommend the technical methods or approaches to be followed in resolving problems that are not covered by agency guidelines. Supervisors place considerable reliance on incumbent's recommendations.
2. Deal directly with higher-level authorities in the organization and with executives in industry and other Government agencies to explain and gain acceptance of policies, programs, processes and techniques which he develops or recommends.
3. Assume responsibility for commitment of his agency to action of a substantive or technical nature, within the bounds of the mission of the agency and its administrative policies.

Assignments of this level normally occur in an activity which has comprehensive responsibility for carrying out a function or program. (Examples of such activities are: (1) a regional office that has been given responsibility for mobilization planning for a commodity class for an entire

military department, (2) a departmental office which controls the export-import licensing for a commodity field, (3) a field office which has been delegated responsibility by the agency headquarters for developing plans for and administering the facilities for the nation's production of a highly specialized fuel.)

GRADE CONVERSION TABLE

Grade Level	Total Points
GS-05	6-8
GS-07	10-12
GS-09	14-16
GS-11	18-20
GS-12	22-24
GS-13	26-28
GS-14	30

The one-point gaps between the point ranges for each grade level are intended for use in unusual and atypical situations where the use of grades GS-6, GS-8, and GS-10 may be warranted. In such cases shades of interpolation finer than the 2, 4, 6, 8, and 10 point values may be applied. However, it is emphasized that the assignment of such atypical point values (i.e., 1, 3, 5, 7, and 9) is expected to occur rarely.

APPENDIX OF INDUSTRIAL SPECIALIZATION TERMS

Agriculture--Machinery and equipment used in production of crops, in the keeping, grazing or feeding of livestock, in dairies, poultry hatcheries, nurseries, and the like.

Aircraft--Aircraft and components and related industries (except transportation services), specifically, airplanes, gliders, dirigibles, and balloons; aircraft engine and engine parts; aircraft propellers and propeller parts; airframe assemblies; and auxiliary equipment such as dive brakes, flaps, fins, rudders, empennage assemblies, alighting assemblies, landing and breaching gear, pontoons, de-icing equipment, bomb racks, turrets, targets, turret drives, parachutes, and link trainers.

Anthracite Mining--Underground mining, stripping or culm bank operations, dredge operations, and coal preparation; related mining services and machinery used in such operations.

Automotive--Automotive equipment and components and related industries (except transportation services), specifically, passenger automobiles, trucks, commercial cars, buses, truck trailers and tractor-type bus trailers, automobile trailers, and special-purpose motor vehicles, such as ambulances, fire engines, taxicabs, scout cars, personnel carriers, and amphibian motor vehicles; tanks and tank components; and motor vehicle parts and accessories such as motor-vehicle engines and parts, brakes and components, clutches, axles, radiators, differentials, transmissions, wheels and frames, windshield wipers, oil filters, and strainers.

Bituminous Mining--Underground, auger and strip mining, and coal cleaning, crushing, screening and sizing; lignite mining; related services and machinery used in such operations.

Construction--Operations, machinery and materials involved in construction of residential, farm, industrial, commercial, public or other buildings; and heavy construction, such as highways, bridges, flood control projects, and the like.

Chemicals--Industrial inorganic chemicals including acids, alkalies, industrial gases, and inorganic color pigments; industrial organic chemicals, including intermediates and dyes, organic color pigments, plastics and resin materials, flavor and perfume materials, synthetic rubbers, and explosives; animal and vegetable fats and oils; soap, synthetic detergents, textile assistants, and cleaning preparations; gums, resins, and wood chemicals; agricultural chemicals, including fertilizers and pesticides; drugs, medicinals, and pharmaceuticals; perfumes, cosmetics, and toilet preparations; paints, varnishes, and other surface coatings.

Clothing--All apparel (except knitted textiles, fur and felt hats, rubberized fabrics, and leather products); fur coats; miscellaneous apparel, such as gloves, mittens, suspenders, foundation garments, robes, belts, dressing gowns, handkerchiefs, waterproof outer garments, and fabricated textile products.

Electrical Machinery--Electrical machinery, equipment, and supplies and related industries, specifically, motors, generators, motor-generator sets, turbogenerator, transformers, switches, circuit breakers, contractors, switchboard and cubicles, control panels, power fuse mountings, instruments for measuring electricity, wiring devices, electric heating units, electric welding apparatus, electrical equipment for motor vehicles, aircraft, locomotives, and railway cars, commercial and household electrical appliances, electric lamps, storage batteries, dry and wet batteries, and electric wire and cable.

Electronics--Telephone, telegraph and other electrical communication equipment and parts; radio and television broadcasting and receiving equipment; electric field detection apparatus, light and heat emission operating apparatus, object-detection apparatus; navigational electronic equipment; electronic test equipment; electron tubes; resistors for electronic end products; solid state electronic devices; inductors, electronic transformers, and capacitors.

Fisheries--Commercial fishing operations, including the catching of fin fish, shellfish, whales; the production of whale oil and whale meat; the operation of fish hatcheries or preserves; and the mechanical equipment used in such operations.

Food Products--Food, beverages, and kindred processed agricultural products and related industries, specifically, meat and byproducts; dairy products; canning and preserving fruits, vegetables, and sea foods; grain-mill products; bakery products; sugar; confectionery and related products; soft and alcoholic beverages except industrial alcohol; and miscellaneous food preparations.

Forestry--The operation of timber tracts, forest nurseries, reforestation, and gathering of forest products; and the mechanical equipment used in such operations.

Furniture--Wood household furniture, including wooden cases and cabinets for radios, sewing machines, etc.; reed, rattan, and metal household furniture; and mattresses and bedsprings. Also included are wood and metal public building and professional office furniture; partitions; shelving; lockers, office and store fixtures except refrigerated cabinets and showcases; windows and door screens; and shades and Venetian blinds except canvas shades and awnings.

Leather--Leather and leather products, including footwear and related industries, specifically, leather tanning, currying, and finishing; industrial leather belting and packing; boot and shoe cut stock and findings of footwear except rubber; dress and work gloves and mittens; luggage; handbags and other small leather goods; and miscellaneous leather goods.

Lumber Products--Products of logging camps, sawmills, planing mills, and veneer, cooperage, and excelsior mills; millwork, plywood, and prefabricated wooden buildings; wooden containers; wood preserving; shoe lasts; mirror and picture frames; and miscellaneous wood products except furniture and fixtures.

Machines--Machinery other than electrical, and related industries, specifically, steam engines and turbines; water wheels and water turbines; diesel and other internal-combustion engines for marine, stationary, traction or other uses except aircraft and automobile engines; machine tools

and related production equipment; general industrial machinery, including pumps and air and gas compressors; conveyor and conveying equipment; exhaust and ventilating fans and blowers; industrial trucks, tractors, trailers, and stackers for use on floors in and around industrial plants and terminals; mechanical power-transmission equipment; industrial furnaces and ovens; industrial and domestic mechanical stokers; office and store machines and devices, and service industry and household machines; and miscellaneous machinery parts, such as valves and fittings, fabricated pipe and fittings, ball and roller bearings, and filling station pumps.

Metals Mining--Mining, developing mines, and exploring for metallic minerals; ore dressing and beneficiation; and machinery involved in such operations.

Metal Products--Tinware, cutlery, except sterling silver and silver-plated cutlery; edge tools, except metal-cutting dies; hand tools, except power-driven hand tools, and general hardware; heating apparatus; fabricated structural metal products; metal-stamping, coating, engraving and electroplating; lighting fixtures; fabricated wire products, such as metal barrels, drums, kegs, pails, safes and vaults, bolts, nuts, screw-machine products, tin and other foil, and other metal products including novelties and specialties.

Missiles--Guided and ballistic missiles, including major components and subsystems, specifically, fuel and propulsion systems; guidance or homing systems with instrumentation including computers, radar and infrared sensing devices; structural components including airframe, warhead, flight control assemblies, and re-entry vehicle; internal operational systems such as communications, fuel, hydraulic and refrigeration; operational test and environmental equipment; missile launchers and launching shelters; ground support and handling equipment; and other parts and components manufactured specifically for and in support of missile systems.

Nonmetallic Minerals Mining--Mining, quarrying, or exploring for: stone, sand, gravel; clay, ceramic and refractory minerals; natural abrasives; chemical and fertilizer mineral, and miscellaneous nonmetallic minerals, except fuels; and services and machinery associated with these operations.

Ordnance--Mechanical ordnance and accessories and related industries, specifically, guns, howitzers, mortars, and related equipment; ammunition and parts; sighting, range-finding, and fire-control equipment; small arms and parts; and miscellaneous ordnance and accessories.

Paper--Pulp; paper and paperboard; building paper and building board; paper coating and glazing; paperboard containers; die-cut paper and laminated, lined, and surface-coated paper board; wallpaper; pressed and molded pulp goods; and miscellaneous converted paper products.

Petroleum and Natural Gas Production--Exploration, drilling, operation of oil and gas wells, operation of natural gasoline and cycle plants, and mining and extraction of oil; also the machinery associated with such operations.

Petroleum Products--Gasoline, kerosene distillate fuel oils, residual fuel oils, lubricants and other products from crude petroleum and its fractionation products; paving and roofing materials, lubricating oils and gases.

Primary Metals--Ferrous and nonferrous metals smelted and refined from ore, pig or scrap; products obtained by rolling, drawing and alloying of ferrous and nonferrous metals; castings, forgings and other basic products of ferrous and nonferrous metals; nails, spikes and insulated wire and cable.

Publishing and Printing--Printing and publishing and related industries, specifically, newspapers, periodicals, books, commercial and book printing, lithographing, photoengraving, electrotyping and stereotyping, bookbinding, book and paper bronzing, gilding, map mounting, typesetting, engraving, plate printing, greeting cards, blank books and loose leaf and other binders, and miscellaneous publishing.

Railroad Equipment--Steam, compressed air, straight-electric, storage battery, diesel-electric, gasoline-electric, and diesel-mechanical locomotives of any type or gage including frames and parts; trackless trolley buses; and railroad, street, and rapid-transit cars and car equipment.

Rubber--Rubber and rubber goods and related industries, specifically, tires, tubes, rubber footwear, reclaimed rubber, industrial and mechanical rubber goods, rubberized fabrics, vulcanized rubber clothing, and miscellaneous rubber specialties and sundries.

Scientific Equipment--Laboratory, scientific, and engineering instruments; mechanical measuring and controlling instruments; optical instruments and lenses; surgical, medical, and dental instruments and supplies; ophthalmic goods; photographic equipment and supplies; and watches, clocks, clockwork-operated devices, and parts. Excluded from this specialization are machinists' precision measuring tools, instruments for measuring electric current, and filling station pumps.

Shipbuilding--All types of ships, barges, canal boats, and lighters of five gross tons and over, whether propelled by sail or motor power or towed by other craft; and all types of boats of less than five gross tons, such as motorboats, sailboats, rowboats, lifeboats, and canoes.

Stone, Clay and Glass Products--Flat glass, pressed or blown glass and glassware; hydraulic cement; structural clay products; pottery and related products; concrete, gypsum and plaster products; and cut-stone and stone products.

Textiles--Textile fibers, yarn and thread; broad and narrow woven fabrics, knit textile products; dyed and finished textiles, carpets, rugs, other floor coverings; fur and wool felt hats and hat bodies; and miscellaneous textile goods, such as felt and lace goods, pads and upholstery filling, artificial leather, oilcloth, and other impregnated and coated fabrics, linen and jute goods, and cordage and twine.

Tobacco Products--Cigarettes, cigars, chewing and smoking tobacco and snuff, and miscellaneous tobacco products.