

120 Howard Street, Room 760
San Francisco, CA 94105



**Job Grading Appeal Decision
Under Section 5346 of Title 5, U.S. Code**

Appellant: [The appellant]

Job: Research Laboratory Mechanic
WG-4745-10

Organization: [activity]
Naval Surface Warfare Center
[division]
U.S. Department of the Navy
[location]

Decision: WG-4745-10;
title at agency discretion

OPM Decision Number: C-4745-10-01

Signed by Denis J. Whitebook
DENIS J. WHITEBOOK
CLASSIFICATION APPEALS OFFICER

May 13, 1997
DATE

As provided in section S7-8 of the Operating Manual, Federal Wage System, this decision is mandatory and binding on all administrative, certifying, payroll, disbursing, and accounting officials of the government. There is no right of further appeal. This decision is subject to discretionary review only under conditions specified in Section 532.705(f) of Title 5, Code of Federal Regulations (address provided in the Introduction to the Position Classification Standards, appendix 4, section H).

Decision sent to:

[CCs]

Introduction

On January 6, 1997, the San Francisco Oversight Division of the U.S. Office of Personnel Management (OPM) received a job grading appeal from [the appellant] whose job is currently classified as Research Laboratory Mechanic, WG-4745-10. However, he believes its grade should be WG-11. Prior to appealing to OPM, [the appellant] filed an appeal with [Department of Navy]. In a decision to him dated December 13, 1996, the agency sustained the title and series of the job, but downgraded it from WG-11 to WG-10. The appellant works in [a large DOD installation]. We have accepted and decided this appeal under 5 U.S. Code 5346.

This appeal decision is based on a careful review of all information submitted by the appellant and his agency. In addition, his immediate supervisor was interviewed by telephone to gain more information about the job. Both the appellant and his supervisor have certified to the accuracy of the official job description (number 4G9613900). In the case file the appellant makes various statements about his agency and its evaluation of his job. In adjudicating this appeal, our only concern is to make our own independent decision on the proper classification of his job. By law, we must make that decision solely by comparing his current duties and responsibilities to OPM standards and guidelines (5 U.S. Code 5346). Therefore, we have considered the appellant's statements only insofar as they are relevant to making that comparison.

Job information

The appellant performs a variety of duties at the [the activity] relating to the operation, fabrication, installation, maintenance, and repair of equipment on boats, cranes, and machinery used to conduct various tests. In addition, he operates boats and cranes, installs rigging for lifting and moving items, and periodically tests and inspects lifting equipment (cranes) to ensure they are properly maintained and capable of meeting prescribed load limits. Such tests lead to certification of the equipment for continued use. He frequently carries out his work as a member of a team conducting acoustic tests and research for naval submarines and other related research projects. Tests are directed by engineers and scientists at the installation.

The appellant's job description, results of our interview, and other material of record furnish more information about his duties and responsibilities and how they are carried out.

Occupation, title, and appropriate standards

The agency has classified the appellant's job in the Research Laboratory Mechanic 4745 occupation, and the appellant does not disagree. We concur with the agency. As described in Part 3, Definitions of Trades and Labor Job Families and Occupations, of the Job Grading System for Trades and Labor Occupations (dated June 1993), jobs classified in the 4745 occupation (page 48) involve work in the fabrication, installation, maintenance, operation, modification, and repair of research laboratory facilities or unique types of experimental equipment used in research and development programs. The work requires skill and knowledge of more than one specific trade. Illustrative examples of work in this occupation include fabricating and modifying test stands and rigs for supporting structures, and maintaining and operating test facilities and related equipment.

The appellant's work consists of a variety of duties at the [the activity] including installing, operating, fabricating, testing and maintaining machinery, test fixtures and equipment associated with research models, and providing ongoing trades support to various research activities where a number of different craft skills are needed. The appellant is one of several skilled craftsmen who support research and development operations, and also maintain and repair equipment and related components at the installation. Like jobs classified in the 4745 occupation, the appellant applies skill and knowledge in several different trades. These include Crane Operating 5725, Rigging 5210, Heavy Mobile Equipment Mechanic 5803, Marine Machinery Mechanic 5334, and Small Craft Operating 5786. Additionally, because he performs some tasks in setting up tests, and testing new equipment and adapting it to research tests, he applies similar skills to those found in jobs classified in the Explosives Test Operating 6517 occupation. The appellant also performs limited work in facilities and utilities maintenance, welding, and plastic fabrication. However, our fact-finding disclosed that these duties do not require application of the full scope of occupational knowledge and skills characteristic of trades governing that work. The appellant performs only limited aspects of the particular trades (i.e., Welding 3703, Maintenance Mechanic 4749, Plastic Fabricating 4352) and his duties do not require that he possess full trade knowledge and skill in those occupations. Thus we have not evaluated that work in the grade evaluation which follows. We note that for those projects where comprehensive journey level trade knowledge and skill in the crafts noted above is required, the installation has a welder, maintenance mechanic, and plastic fabricator on the staff to respond to the detachment's needs. In the course of his work the appellant may also be called upon to operate motor vehicles or fork lifts. However, in reviewing the job grading standards covering these tasks, (i.e., Motor Vehicle Operator 5703, and Fork Lift Operator 5704), the work would not exceed the grade 7 level. Therefore, as discussed later in this evaluation statement, since we have evaluated the appellant's primary duties at a considerably higher grade level than WG-7, we have not assessed the vehicle and fork lift operating duties separately as they are not grade controlling.

The appellant believes that his work inspecting cranes for equipment serviceability and safety, and running load tests of weight handling capability, enhances the grade and complexity of his job. He points out that he has received training in weight handling inspection (32 hours of training), and been certified through the inspection program to inspect the rigging and wire rope of weight handling equipment. He mentions that inspectors are generally classified to a higher grade than the journey level of a given trade. While we recognize that inspecting weight handling equipment and conducting load tests are additional duties for which the appellant has received specialized training, the tasks do not meet the requirements for application of the Job Grading Standard for Inspectors, dated April 1982. As discussed on page 1 of the inspector standard, it is used to grade nonsupervisory jobs that involve examining services, materials, and products that are processed, manufactured, or repaired by workers performing trades or craft work to determine that the physical and operating characteristics are within acceptable standards, specifications, or contractual requirements. In performing periodic safety and operation inspections of cranes, and doing load testing, the appellant is *not* inspecting items processed, manufactured, or repaired by other trades workers. Rather, he is engaged in applying published equipment assessment criteria and specifications to determine if a crane is capable of operating and lifting the loads for which it was built. We view this work as an extension of his crane operating and rigging in that he applies those knowledges and skills to assess the operational ability

of load lifting equipment. A crane operator or rigger must be aware of the proper operating condition of weight lifting equipment, and know the weight of items to be lifted and the capacity of the equipment and lines to lift them. Taking steps to ensure that equipment is operating within safety parameters would be of critical importance to the crane operator. Thus the fact that the appellant is certified to inspect weight handling equipment, and is trained to do so in a course of only 32 hours, is not so significant as to impact on the classification of his job. Indeed, as stated on page 10 of the Job Grading System, Part 1, the requirement that employees be licensed or certified to perform work cannot affect the grades of their jobs.

The appellant's job is best coded to the WG-4745 occupation. That occupation is not covered by an OPM job grading standard. Therefore, according to page 16 of the Job Grading System, Part 1, the appellant's agency may choose the official title for his job. In doing so, the agency should follow the titling guidance on pages 16 and 17 of Part 1. In addition, there are no published job grading criteria for jobs in the WG-4745 occupation. As previously noted, the appellant's job requires skill and knowledge in more than one specific trade. In this case we have applied the job grading criteria in the following standards: (1) Crane Operator, WG-5725, dated June 1971, (2) Rigger, WG-5210, dated January 1972, (3) Heavy Mobile Equipment Mechanic, WG-5803, dated January 1991, (4) Marine Machinery Mechanic, WG-5334, dated November 1980, (5) Small Craft Operator, WG-5786, dated December 1996, and (6) Explosives Tests Operator, WG-6517, dated September 1974. Our application of these standards follows.

Grade level evaluation

Each Job Grading Standard (JGS) evaluates work through four factors: Skill and Knowledge, Responsibility, Physical Effort, and Working Conditions.

Comparison to the JGS for Crane Operator 5725

Skill and Knowledge: The appellant's job fully meets the grade 9 level described on pages 4-6 of the JGS, but falls short of the grade 11 level (pages 7-8). In the appellant's case he operates both bridge cranes and a type of crane (mobile cruiser crane) similar to a boom crane which has a telescopic extender (serving as the "boom") controlled by hydraulic cylinders, rather than hoist lines or cables. Although the cruiser crane is not as complex a piece of equipment as the traditional boom crane which is controlled by hoist lines and has clutches and levers to raise and lower the boom, and the cruiser crane lacks the capacity and versatility of boom cranes, there are sufficient similarities in its operation so as to warrant evaluation under the boom crane section of the standard. Similar to the grade 9 level, in operating bridge cranes he must make precise moves while maneuvering loads over and into production areas with limited clearances. This is done to place parts and equipment for assembly or repair in shops. He exercises skill in making precise moves, and must complete quick and exact control changes while making difficult load alignment and clearance judgments. Like the grade 9 level, at times the appellant works with another bridge crane operator to move loads requiring the combined lifting capacity of two bridge cranes; thus he must coordinate and anticipate the movements of the other operator.

The appellant's skill and knowledge in operating the mobile cruiser cranes also meets the grade 9 level. He must compensate for changes in the lifting capacity of the crane (which is generally well within the limits of the crane) caused by variations in the length and angle of the extender, and position of the crane frame. Like the grade 9 operator, before making each lift he must determine or estimate the weight of the load to be lifted, and then decide what moves the crane will have to make to complete the operation, without exceeding the capacity of the crane. He exercises skill in using various clutches, levers and control devices to move the crane and raise and lower the extender, or increase/decrease its length. He exercises considerable eye, hand and foot coordination to move controls in order to achieve the desired movements while watching the load and its clearance. However, there is generally considerable room to maneuver over and around objects when he operates the mobile cruiser cranes.

The appellant's job does not meet the grade 11 level. Unlike that level, in operating the cruiser cranes (bridge cranes are not addressed at this grade level) he does not have to make rapid lifting capacity judgments during continual position changes. He does not operate in extremely congested areas where maneuverability is restricted, obstructions are close by, and accuracy critical. Precision setting loads onto or into other objects is not typical of his crane movements.

This factor is evaluated at grade 9.

Responsibility: The appellant's position meets the grade 9 level for both operation of bridge (pages 4-5) and boom cranes (page 6). Like WG-9 bridge crane operators, when operating the crane he must be alert to the needs of the production area below, and plan his movements to coincide with the workflow. Because shop work areas are congested, he must carefully plan his movements to prevent damage to the load or machinery, or injury to personnel. In operating the cruiser cranes he follows oral or written instructions indicating the location of the work and generally what should be done, and alerting him to any particular problems that may be encountered. At the work area he plans the positioning of the crane for maximum freedom of movement and greater lifting capacity. He checks the crane and its components prior to starting work, and performs operations in such a way to ensure that the crane is well within its lifting capacity. The supervisor provides guidance on unique situations.

The job does not meet the grade 11 level. Unlike that level, the appellant's crane work is not typically done near obstructions, necessitating greater responsibility for positioning the extender (boom) of the crane than that found at the grade 9 level. Because maneuverability is not so restricted, considerations as to the safest route, clearances along the route, and maximum lifting capacity are not critical.

This factor is evaluated at grade 9.

Physical Effort: Bridge crane operators at the WG-9 level exert the same physical effort as that described at the WG-7 level (page 3), except for making more frequent control changes. They push, pull, and depress various hand and foot controls, requiring continuous reaching and bending of the

hands, arms, and legs. Boom crane operators at the grade 9 level exert heavy effort in operating the various levers, clutches, and brakes (page 6). The operator is subject to strain caused by vibrations, and may occasionally move objects weighing up to 50 pounds. At the grade 11 level the boom crane operator has to make continual control changes to maneuver the crane and load around obstructions, stay within lifting capacity, and position the load at the desired location.

The appellant's physical effort equates to the grade 9 level, but does not reach the grade 11 level. He frequently must push, pull and depress hand and foot levers, requiring continuous reaching and bending. In operating cruiser cranes he is subject to physical strain and his job description indicates that he occasionally lifts objects weighing up to 50 pounds. Unlike the grade 11 level, the appellant is not faced with the obstructions and close maneuvering requiring the strenuous physical effort needed at the higher level.

This factor is evaluated at grade 9.

Working Conditions: As described on pages 5 and 6 of the JGS, the WG-9 bridge crane operator's working conditions are essentially the same as the WG-7 level (page 3), but the work at the 9 level is usually done indoors. Boom crane operators at the grade 9 level work outdoors in a partially enclosed cab in all types of weather. The operator is exposed to engine heat and fumes, as well as the possibility of injury caused by swinging loads or from the crane overturning. Working conditions for grade 11 boom crane operators are essentially the same as those of the grade 9 operator, except that the grade 11 is exposed to a greater possibility of injury from overturning because he/she must frequently work near or at the crane's lifting capacity.

The appellant's job meets the grade 9 level for both bridge and boom crane operation. When operating the bridge crane, ventilation is adequate but heat may be uncomfortable while working indoors and near the shop ceiling (WG-7). However, his work is usually done indoors (WG-9). When operating cruiser cranes he usually works outdoors in all types of weather. He is exposed to the unpleasant hazards (noise, fumes, heat) and potential injury described at the WG-9 level. The job does not meet the grade 11 level for operators of traditional boom cranes because he does not frequently work near or at the crane's lifting capacity which can lead to injury resulting from overturning.

This factor is evaluated at the grade 9 level.

By application of the 5725 JGS, the grade determining factors for the appellant's crane operating duties are evaluated at grade 9.

Comparison to the JGS for Rigger 5210

Skill and Knowledge: At the WG-10 level (pages 5-6), which is the highest level described in the 5210 JGS, the Rigger makes complex and critical judgments to rig and move objects in confined areas, e.g., engine rooms, machine shops, or ship passageways, without the aid of cranes or other

mobile material handling equipment. Instead the rigger uses gear such as chainfalls, gin poles, tackle blocks, gallows frames, or combinations of such equipment. He/she makes difficult load routing judgments by considering such factors as size, shape, and location of the object; availability and strength of overhead support structures; surface conditions; obstacles; and size of surrounding openings in relationship to the size of the object. Based on these judgments, the grade 10 Rigger determines the exact placement of such items as padeyes, beam clamps, and chainfalls used to support and balance the load along a route. The grade 10 rigger uses complex multipoint suspension techniques to permit maneuvering over, under, and around obstacles by tilting, dipping, and turning the suspended load. In cutting, splicing and installing rigging materials, the rigger must plan, lay out and assemble it to meet critical fit, tension, and operational requirements.

The appellant's job meets the grade 10 level. In addition to installing rigging used in conjunction with cranes or other mobile material handling equipment, he has to make critical judgments on rigging and moving items in confined areas (e.g., ship's hatches, passageways, machine shops) without the aid of mobile material handling equipment. To do this he may use gin poles, tackle blocks, or gallows frames depending on the size, shape and location of the object. He makes difficult load routing judgments and must consider the size of the surrounding opening (e.g., diameter of a submarine hatch) in relation to the size of the object being moved. Based on these judgments he places beam clamps and chainfalls at critical points to support and balance the load along the route of movement. This is particularly true when he uses a combination of weight handling equipment to maneuver around obstacles by tipping and turning the load. Because he is frequently faced with operations requiring a critical fit into a confined area, he must carefully plan for and lay out the rigging needed to support or secure the object to be moved.

This factor is evaluated at grade 10.

Responsibility: The WG-10 Rigger (which is described on page 6 and is the highest level for this factor described in the JGS) works from written or oral instructions, blueprints, sketches, and onsite surveys. This is similar to the appellant in that he works off of daily work schedules prepared by the supervisor. Like the grade 10 Rigger, the appellant independently carries out his duties, and may depart from normal trade practices when necessary. Since he frequently works with other trades craftsmen, he is expected to complete assignments quickly so as not to delay the work of the other tradespersons. He is responsible for the safety of equipment and material handled, and the safety of other workers near the rigged object. The supervisor may get involved when unusual rigging situations occur.

This factor is evaluated at grade 10.

Physical Effort: Physical effort at the WG-10 level is substantially the same as that described at the WG-8 level (page 4), with the exception that the grade 10 Rigger works in cramped and awkward positions while installing rigging in confined areas. Not only does the appellant meet the WG-8 criteria in that he frequently lifts moderately heavy objects, continually reaches, bends, and stoops to attach rigging, and uses his entire body weight to push or pull suspended loads, but like the grade 10

level he does all this in cramped, awkward positions in confined areas such as narrow passageways in submarines, engine rooms, etc.

This factor is evaluated at grade 10.

Working Conditions: Working conditions at the WG-10 level are substantially the same as those of the WG-8 Rigging Worker (page 4), with the exception that the WG-10 Rigger is exposed to a greater possibility of injury from swinging loads while working in confined areas of ships, shops, or drydocks. He/she is also exposed to more serious injury from falls while working aloft on stagings, masts, or cranes. Not only does the appellant meet the WG-8 criteria where the employee works indoors and outdoors in all types of weather, is subject to possible cuts and burns, etc., but because he frequently works in confined areas (e.g., ship passageways and engine rooms) like the grade 10 level, there is a greater risk of injury from swinging loads.

This factor is evaluated at grade 10.

By application of the 5210 JGS, the grade determining factors for the appellant's rigging duties are evaluated at grade 10.

Comparison to the JGS for Heavy Mobile Equipment Mechanic 5803

Skill and Knowledge: At the grade 10 level (pages 7-8) mechanics diagnose, repair, overhaul and modify heavy mobile equipment, systems, and vehicles, applying a thorough knowledge of the mechanical makeup, operation, and working relationships of heavy duty systems, assemblies and parts. They work on major systems such as diesel engines, automatic and manual transmissions and gear reduction systems (including those with torque converters and power take offs), drive line assemblies, and various electrical and electronic and hydraulic systems. WG-10 mechanics have a thorough knowledge of hydraulic lifting, loading, turning, and positioning systems and their related controls. They have a basic knowledge of electronics sufficient to identify and replace defective components. Mechanics at this level repair such equipment as bulldozers, road graders, power shovels, mobile cranes, heavy combat and special purpose equipment. They are able to trace and locate defects which cause hydraulic and other major systems to fail. They are skilled in measuring, fitting, and installing components, such as pistons, valves, bearings, gears and cylinders, to specified clearances. They can connect, align, and adjust parts and systems to assure proper operation of the complete system or vehicle. This would include adjusting pumps, power boosters, and drive chains, synchronizing electrical and hydraulic controls, and setting timing of injectors to engine specifications.

As described on pages 10-11 of the JGS, mechanics at the grade 11 level repair, overhaul, or modify vehicles and equipment that are more complex than those dealt with at the grade 10 level. Vehicles at this level have numerous interconnected systems, and are found on attack tanks, locomotives, locomotive cranes, etc. They apply greater knowledge of the principles behind various operational systems than grade 10 mechanics, to diagnose malfunctions when standard procedures and existing methods do not suffice. They develop or improvise methods, alter parts, and make repairs in the

absence of technical guidelines. For example, they may change a part to fit a system for which it was not designed, or design a modification to meet a special test requirement. They use specialized diagnostic equipment to diagnose problems in complex state-of-the-art electric and electronic systems to identify and replace defective components such as chips, sensors, and printed circuit boards. Mechanics at this level regularly apply an intensive knowledge of the characteristics of various major mechanical and nonmechanical systems more complex than those typical of the grade 10 level.

The appellant's job fully meets the grade 10 level, but falls short of the grade 11 criteria. He maintains, repairs, and overhauls the full range of systems on heavy mobile equipment consisting primarily of mobile cranes. He applies a thorough knowledge of the content, operation, and repair of the major mechanical, propulsion and hydraulic systems of the equipment. Additionally, he is thoroughly knowledgeable of the working relationships and interface of mobile crane diesel engines, transmissions (including gear reduction and torque conversion components), the hydraulic systems governing movement of the extender arm, drive lines and differentials, and the fuel and electrical systems. Since he not only repairs mobile cranes but also operates them, he applies significant knowledge of the vehicle's hydraulic lifting, loading, turning and positioning systems, and how they are run via electrical controls. Like grade 10 mechanics, the appellant exercises the knowledge and skill to locate mechanical or electrical problems that cause equipment to fail. For example, he identifies worn out or defective cylinders which operate the extender arm or outrigger lifts, repairing them and associated electrical parts as necessary. He uses the variety of test equipment discussed at the grade 10 level in the standard, and selects and applies various technical manuals, specifications, and schematics reflecting mobile crane operation and repair procedures. He repairs and installs valves, bearings, gears and cylinders to specified clearances, and connects, adjusts, and aligns parts and systems to assure proper sequence of operation of the vehicle, e.g., synchronizing hydraulic controls.

The appellant's job does not meet the grade 11 level. Unlike that level he does not repair, overhaul or modify the complex and varied operational systems typical of the vehicles and equipment identified at grade 11 in the JGS. The interconnecting systems he deals with are not as complicated, or require such critical tolerances, as those discussed in the standard. Unlike grade 11, guidelines are available for repair of mobile cranes and their components, and standard practices and existing methods typically suffice to carry out the repair or overhaul. Although the appellant mentions that he repairs and modifies unique types of experimental equipment, sometimes to meet special needs, this is not done in the process of repairing or overhauling mobile equipment. We found no indication that he uses specialized diagnostic equipment to assess complex state-of-the-art electrical or electronic systems resulting in replacement of defective chips, circuit boards, etc.

This factor is evaluated at grade 10.

Responsibility: As discussed on page 9 of the JGS, grade 10 level mechanics make independent judgments and decisions within the framework of accepted trade practices and oral and written instructions by the supervisor. They use judgment in determining the extent of repairs needed, based on analysis performed, user reports, inspection reports, and vehicle records. They select work

methods, tools, and manuals, to complete work assignments. Work at this level is accomplished with little or no review during progress or upon completion.

Grade 11 mechanics (pages 11-12) exercise significantly more judgment and independence in determining the methods and techniques required to solve unusually complex maintenance and repair problems. For example, they plan and improvise repair procedures, find ways to mechanically and physically adapt or alter items to fit and mesh into systems for which the items were not specifically designed, or find ways to diagnose and correct defects when existing methods and procedures do not give the desired results. The supervisor assigns work orally or through work orders or schedules. The employee independently determines work methods, sequences, tools, and equipment to use in making the extensive and complex repairs to the vehicles and equipment described at this level.

The appellant's position meets the grade 10 level. Due to the absence of unusually complex maintenance and repair problems characterized at the higher level where improvisation and adaptation are frequently required, the job falls short of grade 11. He receives daily work lists covering maintenance or operations, and makes independent judgments and decisions within the framework of that guidance. He analyzes the work to be done based on inspections, vehicle records and reports of operators, and then determines the extent of repairs needed. Like the grade 10 level, he selects all work methods, tools and written guidelines to complete the assignment. The supervisor performs little or no review of the appellant's completed work.

Physical Effort: This factor is the same at grades 8, 10, and 11, and is not grade controlling. The appellant's job meets the grade 8 criteria as described on page 5 of the JGS. Like that level he works in tiring or uncomfortable positions for long periods. The work requires frequent standing, bending, reaching, etc., and is performed in tight compartments of vehicles in cramped or awkward positions. He frequently carries items weighing up to 40 pounds, and moves heavier items with the assistance of other workers or mechanical devices.

Working Conditions: This factor is the same at grades 8, 10, and 11, and is not grade controlling. The appellant's job meets the grade 8 criteria as described on pages 5 and 6 of the JGS. Like that level he works both inside and outside. When inside he is frequently exposed to drafts, changing temperatures, and noise. When outside, he sometimes works in bad weather. Both inside and outside he is exposed to irritations from dust, grease, heat, and fumes. He is subject to cuts, bruises, and electrical shocks, and uses protective equipment and clothing as needed.

By application of the 5803 JGS, the grade determining factors for the appellant's heavy mobile equipment repair duties are evaluated at grade 10.

Comparison to the JGS for Marine Machinery Mechanic 5334

Skill and Knowledge: The appellant's job meets the grade 10 level which is the highest level for this factor described in the JGS (pages 9-11). Similar to that level he installs and repairs complex marine equipment and machinery on various craft used at the ARD. These include main propulsion

machinery such as turbo charged diesel engines, reduction gears, main shafting, power drives, lubricating and control systems, and generators. Like grade 10 mechanics, he examines and troubleshoots to determine the extent of repairs needed, identifies the materials and parts required, and estimates the time to complete repairs. He also disassembles and repairs components such as shafts, propellers, auxiliary engines, air compressors and feed pumps. The appellant is able to interpret and apply the requirements contained in various shop and technical manuals, schematics and blueprints, to determine critical dimensions and key reference points. He is able to independently dismantle and move various types of marine equipment such as generators, diesel engines, and their accessories, and makes the necessary jigs and other fixtures required to repair or install equipment and machinery. The latter work requires a knowledge of materials and their versatility.

This factor is evaluated at grade 10.

Responsibility: The appellant's job meets the grade 10 level which is the highest level for this factor described in the JGS (page 11). Similar to that level he works alone under the general supervision of the foreman, who makes assignments orally or in writing. The appellant independently carries out his work including such tasks as troubleshooting equipment to determine the area of difficulty; what parts or materials are required; and the methods and techniques needed to complete installation or repairs. He plans and lays out his work using sketches, specifications, or blueprints, and is responsible for independently diagnosing, planning, and completing projects involving major systems in their entirety. The supervisor reviews work for adherence to accepted trade practices.

This factor is evaluated at grade 10.

Physical Effort: This factor is the same at grades 8 and 10, and is not grade controlling. The appellant's job meets the grade 8 criteria described on page 7 of the JGS. Like that level he frequently handles objects weighing up to 45 pounds, and occasionally carries objects weighing more for considerable distances. He is required to push, pull, walk, stand, crawl, etc., and work in cramped positions around machinery of all types for sustained periods of time.

Working Conditions: This factor is the same at grades 8 and 10, and is not grade controlling. The appellant's job meets the grade 8 criteria described on pages 7 and 8 of the JGS. Like that level he usually performs work both inside and outside in prevailing weather conditions and noisy areas, and works on surfaces that may be slippery or uneven. He frequently performs tasks in cramped areas of vessels with minimum light and ventilation, and is constantly exposed to moving objects and sharp edges, which can result in injuries such as cuts and bruises. Dirt, grease, and chemical fumes are frequently encountered, and he uses various protective devices such as safety shoes, glasses, and hard hats.

By application of the 5334 JGS, the grade determining factors for the appellant's marine machinery repair duties are evaluated at grade 10.

Comparison to the JGS for Small Craft Operator 5786

Due to the number of significant, interacting variables which can affect the grade level determination of Small Craft Operator 5786 jobs, the JGS uses benchmark job descriptions rather than the usual grade level format found in most job grading standards, to illustrate work at a number of grade levels.

Skill and Knowledge: As described in Benchmark #6 at the grade 10 level (pages 18-19), small craft operators at that level may operate a 65 foot vessel, applying comprehensive knowledge of the rules of the road including navigation lights, fog signals, and day shapes for appropriate conditions. They work in exposed bays and offshore within reach of harbor, where visibility for navigation and lookout is often restricted. Operators at this level transport and assist personnel involved in fishery studies, locate desired fishing areas, apply knowledge of the use of various types of commercial or experimental equipment and methods, and assist in the handling and operation of sampling or measuring equipment. They must have the ability to operate steering, throttle and clutch controls to maneuver the boat at low speed, and possess skill in the operation of auxiliary equipment (e.g., hoisting winches, cargo booms) assuring that lines and blocks are of sufficient strength for the load. They operate electronic equipment such as loran, radar, communications radio, and depth sounders. Operators at grade 10 perform tune ups and maintenance to mechanical and electrical equipment on board. They are capable of laying out courses to assigned destinations, using navigational and electronic aids to plot routes. Often the destinations have no visual identity because they are beyond visual range of shore. Grade 10 operators interpret charts of the local marine area, and know the locations of buoys and landmarks to plot fixes and lay out courses.

As described in Benchmark #8 (pages 22-23) at the grade 12 level (the JGS contains no benchmarks describing grade 11 work), small craft operators at that level may operate a 160 foot motor vessel to transport scientific and technical personnel and equipment, and retrieve submerged equipment at extreme depths of the ocean. They must have the ability to coordinate the operation of the engine, steering, thruster, and mooring controls in order to maneuver the craft to a precise position to place or pick up equipment. Because operators at this level work in the open sea, frequently out of sight of land, they must have knowledge of deep sea, multipoint mooring techniques. They operate electronic equipment to plot their positions on the ocean, and maintain shore communications. They have knowledge of local weather signs and portents to predict weather developments over several days in order to determine if the seas will be too rough for operations. They exercise skill in plotting courses to desired locations, allowing for wind, current and wave influences on the ocean, and their effect on deep sea mooring activities. At the grade 12 level operators must possess the ability to interpret navigation and current charts, light lists, coast pilot, and other pilotage publications covering proposed areas of operations to determine channels, shoals, shipping lanes, navigation aids, landmarks, shore appearance, safe operating depths and courses, etc.

The appellant's small craft operating duties are comparable to the grade 10 level, but do not meet the next higher level described in the JGS, i.e., WG-12. The largest vessel he operates is the sixty foot Chinook motorboat which, although not used for fisheries related work, is used to transport equipment and personnel engaged in scientific studies. Like the grade 10 level, his activities include

the handling of experimental equipment, and he assists in the operation of that equipment in carrying out various tests. For example, the boat tows a sonar device when carrying out certain acoustic tests on the lake. He assists scientific and test personnel in locating specific areas for tests. He works in exposed bays and offshore within reach of the harbor where the ARD is located, but in poor weather visibility may be restricted. However, he is never far from shore since the lake is only four miles wide, and 40-60 miles long. Similar to grade 10 operators, the appellant operates steering, throttle and clutch controls to maneuver the boat at low speed in test areas of the lake, and is skilled in the operation of auxiliary equipment such as hoisting winches and booms. He operates various electronic and navigational equipment found at the grade 10 level (e.g., depth sounders) and performs mechanical maintenance on vessel equipment. In navigating on the lake he must interpret marine charts of the local area, and know the locations of buoys and landmarks to plot courses.

The appellant's position does not meet the grade 12 level. In addition to operating a much smaller vessel than that described at this level, the services the boat performs and the physical and traffic conditions of the waterways in which the boat is operated, as well as weather conditions, limit the appellant's job. Although he transports technical personnel and equipment, this is not done while operating on the open sea, frequently out of sight of land, where the operator must have knowledge of the effect of sea and weather conditions on maneuver and mooring operations. Although he retrieves submerged equipment from the lake, this is not done at the extreme depths found in the open ocean. In addition, he does not have to have knowledge of the severe kinds of weather conditions typical of the ocean which can produce extremely rough seas directly impacting on operations. Moreover, the navigational skills he applies in plotting courses do not include consideration of the influences of wind, current, and waves typically found when operating on the open sea. The references he uses to navigate on the lake, and the items he must be aware of to plot courses, are not as extensive as those described at the grade 12 level, e.g., light lists, coast pilot publications, shipping lanes.

This factor is evaluated at the grade 10 level.

Responsibility: As described in Benchmark #6, at the grade 10 level (page 19) the small craft operator receives administrative supervision and instruction such as schedules of trips to be made, destination, operations to be performed, etc. The operator is responsible for the safe operation of the boat, including maintaining it in operating condition by performing general maintenance and scheduled repairs, loading cargo, rigging sampling equipment, directing the vessel to its destination, and determining whether scheduled operations can be safely performed or must be canceled.

As described in Benchmark #8, at the grade 12 level (page 23) small craft operators receive work assignments explaining cargo and personnel to be carried, work to be performed and time and location of operations. They confer with the supervisor and technical personnel to plan details of the operations. At sea, they discuss problems with the passengers to plan changes in operations. The operators are responsible for safety of the vessel, passengers and cargo, which may require postponing trips if required by weather or sea conditions. The operator is also responsible for replenishing supplies, and the proper maintenance and servicing of the boat and engines.

Although there are similarities between the levels of responsibility of grade 10 and 12 small craft operators, the appellant's job more closely reflects the grade 10 level. This is primarily due to the fact that he operates vessels on a lake within reach of harbor, rather than on the open sea frequently out of sight of land. Work on the open sea places more responsibility on the operator for the safety of the vessel, passengers and cargo, and the proper mechanical functioning of the boat. Like the grade 10 operator, the appellant receives administrative supervision and instruction, including a daily written work list covering the day's operations. This is in contrast to the grade 12 level where geographic dispersion, and long distances from port in carrying out operations on the open sea, would preclude such daily instructions. Like the grade 10 level, the appellant is responsible for the safe operation of the boat, as well as those maintenance, supply, and equipment handling duties described at that level. Although the appellant is authorized to determine whether scheduled operations can be safely performed on the lake, he does not have to make those decisions based on the kinds of changing weather and sea conditions found when operating on the open ocean.

Overall, this factor is evaluated at the grade 10 level.

Physical Effort: Both Benchmark #6 at the grade 10 level (page 19), and Benchmark #8 at the grade 12 level (page 23), are similar in that moderate physical effort and hand/eye coordination are required when operating controls and performing maintenance, which is comparable to the appellant's job. However, unlike his job, arm and leg strength, good balance and physical agility are needed at the grade 12 level because the vessel operates on the open sea, where the boat is frequently moving violently due to storms or heavy seas.

This factor does not exceed the grade 10 level.

Working Conditions: The working conditions described in Benchmark #6 (page 19) at the grade 10 level, more accurately describe the appellant's job than those discussed at the grade 12 level (page 23) in Benchmark #8. Similar to the grade 10 level, the appellant works on deck, exposed to sun, wind, spray, rain, and ice during year-round vessel operations on the lake. He is exposed to such conditions particularly when mooring, unmooring, anchoring, assisting with experimental and test operations, and moving equipment and cargo. He is subject to possible injuries such as broken bones or bruises from moving equipment, or falls on slippery surfaces of the boat. The appellant's working conditions differ from the grade 12 level, where the operator is exposed to prevailing weather but only for short periods, because most work is performed in the shelter of the vessel's pilot house.

This factor is evaluated at the grade 10 level.

By application of the 5786 JGS, the grade determining factors for the appellant's small craft operating duties are evaluated at the grade 10 level.

Comparison to the JGS for Explosives Test Operator 6517

As previously noted in this evaluation statement, the appellant performs some tasks in setting up tests, and testing new equipment and adapting it to research tests. To evaluate this work we have cross referenced to the grading criteria in the 6517 JGS since the appellant applies similar skills.

Skill and Knowledge: As described at the grade 10 level on page 4 of the standard (which is the highest level for this factor described in the JGS), test operators use a broad knowledge of functional testing procedures and practices to develop new procedures or modifications to achieve the test results needed. They use a practical knowledge of mechanical and electrical equipment to devise or modify test stands, jigs, and auxiliary equipment. They use their experience with previous test operations to interpret work orders, blueprints, and other specifications and lay out, time, and coordinate test operations.

The knowledge and skills applied by the appellant are similar to those reflected at the grade 10 level. He applies a broad knowledge of functional testing procedures to plan, fabricate, install and/or modify unique types of experimental equipment used in research and development programs at the installation. Using primarily a practical knowledge of mechanics, he devises and modifies test stands and jigs, as well as hydraulic and pneumatic systems, to control test vehicles and accommodate new tests being developed or conducted by engineers and scientists. Based on the preceding discussion, this factor is evaluated at the grade 10 level.

Responsibility: As described at the grade 10 level on page 5 of the standard (which is the highest level for this factor discussed in the JGS), test operators at that level receive work assignments from supervisors in the form of work orders and brief oral outlines of objectives. They plan the test methods and procedures, determine the type of equipment needed, and set up the test equipment. They work directly with engineering personnel to assure that all technical requirements are met. Grade 10 test operators exercise initiative and judgment in improvising special set ups and procedures on test equipment to perform operations on a one-time or infrequent basis.

The appellant's job meets the grade 10 level of responsibility. He receives his assignments in the form of work lists, and works independently to plan test methods, determine the equipment needed, and set up the test. He works closely with engineers and scientists at the detachment to ensure that he has a clear understanding of test objectives, and that all technical requirements are met in terms of electrical and mechanical equipment, specialized support and lifting structures and equipment, etc. Like grade 10 test operators, some tests are conducted on a one-time basis requiring him to display initiative and judgment in setting up special procedures and test equipment.

This factor is evaluated at grade 10.

Physical Effort: The physical effort required at the grade 10 level is similar to that described at the grade 8 level of the JGS (pages 2-3). Since this factor is the same at both levels it is not grade controlling. Like the grade 8 level, the appellant frequently lifts test items weighing up to 40 pounds,

and occasionally may carry an item weighing about 60 pounds. The work requires long periods of standing, and sometimes stooping, bending, and kneeling, or working in tiring and uncomfortable positions.

Working Conditions: The working conditions experienced at the grade 10 level are similar to those described at the grade 8 level (page 3 of the JGS). Since this factor is the same at both levels it is not grade controlling. Like the grade 8 level, the appellant works both indoors and outdoors and is subject to noise from test operations. He is exposed to the possibility of injury from the operation of experimental devices, and wears protective gear as needed.

By application of the 6517 JGS, the grade determining factors for the appellant's test operating duties are evaluated at grade 10.

Summary

The appellant's job involves performance on a regular and recurring basis of duties in two or more occupations. His crane operating duties are best evaluated at WG-9, his rigging duties at WG-10, his heavy mobile equipment repair duties at WG-10, his marine machinery repair duties at WG-10, his small craft operating duties at WG-10, and his work in test operating at WG-10. His WG-10 duties in the various occupations involve the highest skill and qualification requirements of his job, and are regular and recurring. Therefore, the job should be graded at WG-10 overall (Job Grading System, Part 1, pages 10 and 11).

Decision

The appellant's job is properly classified in the Research Laboratory Mechanic 4745 occupation at the WG-10 grade level. Selection of an appropriate title is at the agency's discretion.