

Job Code Classification System

Part II - Production Operations and Marketing/Transportation Operations

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Part II
Production Operations and
Marketing/Transportation Operations

Prepared for the American Petroleum Institute

By
OH 26 Industrial Hygiene Subcommittee

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PREFACE

The following job code classification system was developed under the auspices of the Medicine and Biological Science Department of the American Petroleum Institute. This revision adds production operations and marketing/transportation operations to the original Job Code Classification System for Petroleum Refineries and Selected Petrochemical Operations. The members of the OH-26 Subcommittee of the Industrial Hygiene Committee gave the guidance and support that made the addition to this classification system possible. The members verified with their company staff that the classification was practical, reasonable and consistent with production and marketing/transportation operations practices and terminology in the United States. API staff also reviewed the task lists for completeness and appropriateness.

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PREFACE TO PART I

The following job code classification system was developed under the auspices of the Medicine and Biological Science Department of the American Petroleum Institute. The members of the OH-11B Subcommittee of the Industrial Hygiene committee provided invaluable support in the construction of the classification system. Additionally, at each stage of development, committee members verified with staff of their representative companies that the classifications were practical, feasible, and consistent with standard practices and terminology in United States refineries.

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I. INTRODUCTION

The purpose of this revised job classification system is to provide a standardized method for identifying and classifying jobs within the petroleum refining industry, related petrochemical operations, production operations and marketing/transportation. This system is not an API standard, nor is it intended that companies should adopt the system for internal use. However, such a system could be utilized in inter- and intra-company occupational health studies whenever job data groupings would be useful. Possible applications include morbidity and mortality studies, qualitative and quantitative exposure evaluations, medical surveillance evaluations, exposure monitoring scheduling, and medical surveillance scheduling. Thus, the job classifications must be specific enough to permit meaningful examination of sub-populations within the petroleum industry, yet broad enough to allow for inter- and intra-company variations, now and in the past.

It was recognized from the outset that most existing job classification systems were devised for administrative purposes; they reflect personnel practices, organizational structure, and labor-relations considerations. In these systems, the factors generally used in classifying jobs are salary, training or education, level of responsibility and

accountability, and level of supervision. While useful, these factors have little bearing on occupational health. In occupational health, the primary focus is exposure. Since exposure levels can vary with operating conditions, equipment type, age and state-of-repair, it was determined that it was not feasible at this time to differentiate jobs on a quantitative exposure basis. Even qualitatively, it is difficult to exactly define the work environment because the process streams are often complex mixtures of a large number of chemicals, and the source of crude and operating parameters may influence their composition. Even though it may not be possible to qualitatively define the work environment, it is a reasonable assumption that similar processes potentially present similar qualitative exposures. Thus, process was selected as one variable in classifying a job.

The second variable in classifying a job is obviously the job itself. Job titles vary from company to company and are dependent on labor and personnel practices. However, using functional descriptions of jobs, a standardized list for the operations was developed.

II. USE OF THE JOB CLASSIFICATION SYSTEM

Each job can be classified using two variables: process and task. Process is where the individual is physically located rather than administratively assigned. The Standardized Process List with corresponding codes is in Section IV and the Standardized Task List and codes in Section V. Both lists are hierarchical in arrangement. A sample alternate display of the terms which more clearly indicates the hierarchy is shown in Figure I. Together, the process and task lists form a matrix of 241 process terms and 58 task terms.

In the Standardized Process List, 45 "units" have been identified. A process was designated as a "unit" when significantly different qualitative exposures would be expected to occur by virtue of the process, feedstock, and/or product streams. For the most part, the "unit" can be identified with a physical process area or location, e.g., "catalytic cracker." However, there are some "units" which have no precise physical locations, for example, "multi-process to plant-wide" and "office-non-field." The first two digits in the process code reflect the "unit" designation.

CRUDE PROCESSING UNIT

(0100)

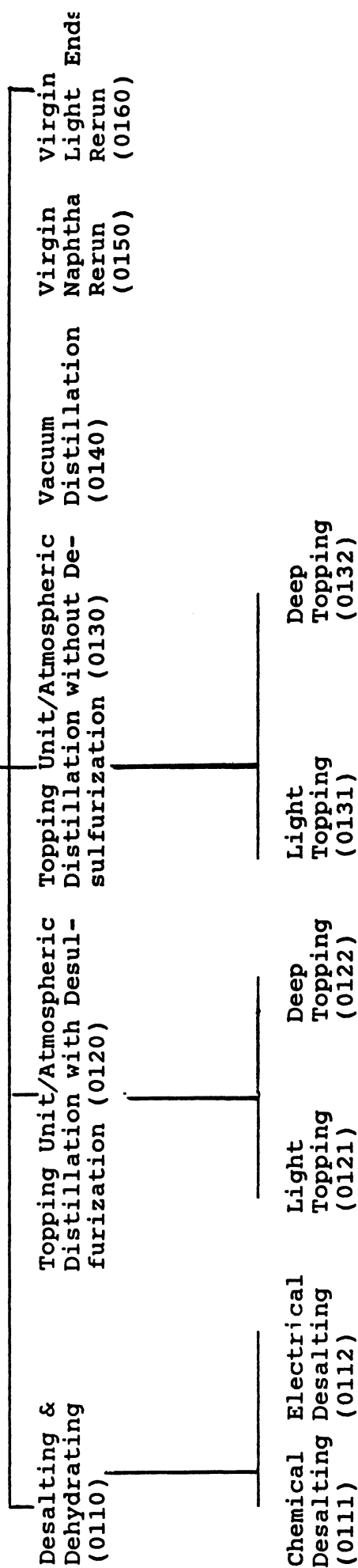


Figure 1

Hierarchical Arrangement for a

Crude Processing Unit (0100)



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Sub-headings under "unit" were necessary to further refine the classification system. The sub-headings represent variations in the "unit" process or discrete sub-processes within the main "unit." Again, these reflect qualitative differences, but not the same degree as exist between "units." The third and fourth digits of the process code indicate second and third level headings, respectively.

In most cases, generic names rather than licensed process names were used in the Standardized Process List. No attempt has been made to differentiate processes on the basis of catalysts. It was recognized that exposures to catalysts can occur, and that these exposures may be potentially significant in terms of health effects. However, the number of possible catalysts is myriad, which would make the process list unwieldy. In addition, the catalyst is often proprietary.

In constructing the Process List, consideration was given to typical staffing practices in the petroleum industry. Therefore, even though a process is distinct and qualitatively different, it was given a "unit" heading if it is generally manned by the same staff as another process unit. This is best exemplified in the handling of the processes for H₂S

removal and recovery in petroleum refining. The operation of such an H_2S facility is usually an integral part of the operation of the main process unit and generally utilizes the same control room and staff. Therefore, "with" and "without H_2S removal/recovery facilities" are shown as sub-headings, or variations, of the major "unit". On the other hand, in production operations, H_2S cannot be classified this way as most oil fields are mixed.

The Standardized Task List is divided into sixteen major tasks, many of which have sub-task designations. The first letter of the task code reflects the major task, and the second letter, sub-tasks if applicable. As can be seen from the Task List, the majority of tasks are related to maintenance activities. It became apparent that many companies are cross-training their maintenance staff; the grouping of the maintenance tasks allows for this practice.

When classifying jobs according to the Standardized Process and Task Lists, one should use the most specific code possible. In cases where the most specific codes are not applicable because tasks and/or processes are combined, or knowledge of past processes is incomplete, it is permissible to use the next higher code in the hierarchy. For example, if it is not known whether an old fluid coking unit had H₂S removal/recovery facilities, the code for fluid-coking (0410) should be used. Or, if both fluid coking and delayed coking processes are present, and both are operated by the same personnel, the highest term "coking unit" (0400) would be used.

To allow the classification system greater flexibility, it is possible in some instances to skip the second level in the hierarchy. An example of this situation is in Receipt, Storage, and Movements Unit (2900). As can be seen, the third level headings are repetitive, i.e., product, intermediate, and crude are listed under each of the second-level headings. If a job involves more than one (but not necessarily all) of the second level headings, e.g., "crude", the process code would be 29X3. An "X" should be used for second level rather than "0" to clearly indicate that a level has been skipped. This type coding may be used whenever third level headings are repetitive.

An index to the Standardized Process List has been included as Section VI of this report. It should be stressed that this is for quick reference only and should not be used in lieu of carefully examining the process list to determine the most appropriate code.

III. EXAMPLES

(1) Job: Boardman on a fluid-bed catalytic cracker equipped with H₂S removal/recovery facilities.

Code: 0221BA

(2) Job: Helper, whose duties are primarily outside, on the above process unit.

Code: 0221BC

(3) Job: Welder, assigned to the above process unit.

Code: 0221CF

(4) Job: Welder, assigned to a zone which includes the above process unit and several others; performs routine maintenance.

Code: 2511CF

(5) Job: Welder in a maintenance shop.

Code: 2400CF

(6) Job: Cross-trained individual who can function as a welder, lead burner, pipefitter, boilermaker on a plant-wide basis; may do both routine or turnaround maintenance.

Code: 2510CX

- (7) Job: Same as (6) but may also apply insulation.
Code: 2510MX
- (8) Job: Shift supervisor, responsible for a department which includes several process units in a petrochemical plant.
Code: 2520AX
- (9) Job: Industrial hygienist responsible for entire refinery.
Code: 2531JA
- (10) Job: A senior (outside) roustabout, assigned to a block which includes several offshore platforms.
Code: 5030LF
- (11) Job: A senior operator who handles pumping, tank farm activities, and blending of products in gas plant.
Code: 29X1BC
- (12) Job: Personnel clerk in main office of a petrochemical plant.
Code: 2700AX

(13) Job: Process engineer for sulfuric acid plant; job requires that he spend some time in the process area, but the majority of his time is spent in office.

Code: 2532JA

(14) Job: Shipping and receiving clerk in the maintenance shop.

Code: 2400AX

(15) Job: Laboratory technician in the R&D laboratory.

Code: 2620KB

(16) Job: Lease operator, works on a field wide basis.

Code: 5030LE

(17) Job: Dock operator, unloading gasoline from a barge.

Code: 2941RF

(18) Job: Marketing terminal utilityman.

Code: 2951NA

(19) Job: Performs a variety of maintenance and laborer functions around a pipeline system.

Code: 2960PA

- (20) Job: Pumps gasoline at a retail gasoline outlet.
Code: 2970NC
- (21) Job: Shipping and receiving clerk at a marketing
warehouse.
Code: 2990AX
- (22) Job: Ordinary seaman on a ship carrying gasoline and
fuel oil.
Code: 2941RB
- (23) Job: Mechanic at a gas plant that works on gas and
gasoline engines.
Code: 5050FX

APPENDIX