A LABOR MARKET FORECAST
FOR
NUCLEAR-RELATED TECHNICIANS

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Abstract

During 1975, data was collected on the current and projected future levels of employment and training for nuclear-related technicians in the twelve western states. Survey questionnaires were mailed to over 2600 organizations; 79 percent of these responded to the data request. Inquiries to a 20 percent sample of the non-respondents indicates the survey accounts for approximately 95 percent of the total nuclear-related technician employment in the western states.

As of January 1975, over 16,800 nuclear-related technicians were employed in the western states. By late 1977, the total employment is projected to reach 22,300, a growth rate of ten percent per year over the next three years. Total additional demand (new positions plus replacement for attrition) is projected at 15 to 20 percent per year. Manpower shortages are projected for several types of research and production nuclear-related technicians. Excesses of manpower are projected for several types of nuclear medical and health-related technicians.

I. Introduction

Purpose and Scope

Economic activity in nuclear-related areas (energy production, R&D, education, medicine and industrial applications) has grown rapidly over the last three decades. Recently, the emphasis on energy development has produced accelerated growth plans in the nuclear energy field. This increase in nuclear-related activity has caused a corresponding increase in the amount of manpower occupied in the field. Education and training organizations have responded to the needed manpower requirements by developing and offering more nuclear oriented programs [7].

This study presents the results of a survey of current and projected near-future labor market trends for nuclear-related technicians in the Western Interstate Nuclear Board (WINB) region. The survey reports current employment levels, January 1975, and projected additional manpower requirements and additional manpower supplies for 1975 through 1977. The WINB states are

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Alaska, Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington and Wyoming. The survey covered employers and educators/trainers of nuclear-related manpower in private industry, research laboratories, governmental agencies, government contractors and educational organizations.

A list of technician occupations and training areas, with appropriate descriptive phrases, was provided in the survey. (See list 1 for occupation listings.) It must be noted, however, that each survey respondent made his own decision as to which positions and/or training programs qualified for inclusion in the survey report.

The decision to focus on technicians in the survey was based on two considerations. One, past studies have indicated that the trend in the nuclear field toward more applied research, demonstration projects and commercialization is causing an increase in the relative share of technicians needed in the workforce [1], [2], [5], [6]. Two, there is a lack of hard data and information concerning actual labor market trends for the technicians in nuclear-related fields.

Data Source

The universe for the survey was developed by the Western Interstate Nuclear Board (WINB) [11] and modified by the research staff. The universe contained 2593 organizations. A total of 2045 questionnaires were returned (79% of the universe). Of the 2045 responses, 1025 reported employment and/or education training programs for nuclear-related technicians.

Data Omissions and Bias

A special followup sample survey was conducted to determine the probable size of the omitted employment data and to establish any bias among the non-respondent firms. Data for this sample survey was collected by telephone and included 110 of the 548 non-respondents (i.e., a 20% sample).

Based on the omission sample survey the employment data collected represents approximately 95% of the actual employment. The vast majority (90%) of non-reported (i.e., omitted) employment data appeared in the medical area. Omissions in other categories were minimal to non-existent.

Omitted data on new supply is harder to estimate. Technician training is scattered in informal and formal programs throughout industry, laboratories, government agencies and medical units, as well as in formal education organizations. Hospitals, where the largest data omission occurred, often provide technician training, so the omitted additional demand and additional supply data can be expected to balance out for medical organizations. The data omission for industry was very small. With respect to formal education organizations, completed questionnaires were received from 38 of the 42 schools offering a nuclear-related program [9] in the western states. The non-reported programs are all in the health-related field.

Based on these estimates of data omissions and biases, the survey