tagged compounds · topes · health physics service · associated equipment

isotopes specialties company

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December 24, 1958

United States Atomic Energy Commission
1717 H Street, N. W.
Washington 25, D. C.

Attn: Mr. Robert E. Brinkman
Senior Regional Licensing Reviewer

Dear Mr. Brinkman:

Isotopes Specialties Company offered a five day training course on December 1, 2, 3, 4, 5, 1958 to personnel from several companies in the Los Angeles Area. This course was given at our plant at 170 West Providencia, Burbank, California. The instructors were Dr. Landsverk of the Landsverk Electrometer Company, J. L. Shepherd, R. K. Dickey, and Philip Gill. Personnel taking this training course were:

Topp Manufacturing Company
5221 W. 102nd St.
Los Angeles 45, California

E. M. Luther
P. Van Benschoten
R. C. Parkinson

Dresser Dynamics
18157 Napa Street
Northridge, California

C. D. McGregor

Rocketdyne Division of
North American Aviation
6633 Canoga Avenue
Canoga Park, California

R. B. Gordon

The three persons from Topp Mfg. who took this course were principally interested in acquiring the techniques and skills required in handling unencapsulated cobalt-60 sources of up to 10 millicuries in size. These materials will be imbedded in a matrix of plastic like material and the purpose of this setup will be to evaluate air errosion such as might occur on nose cones.

A/5

Personnel from Dresser Dynamics had an interest in being qualified to be responsible for sealed Sr-90 sources in the range of a microcurie or at the most a millicurie. These sources will be of the type used as internal calibration sources or as energy sources for level gauges.

Personnel from Rocketdyne was interested in obtaining all possible information and experience in the field of Health Physics Practices.

Laboratory work involved the use and handling of sealed sources of several isotopes including cobalt-60, iridium-192, antimony-124, cesium-137, thulium-170, and strontium-90. The size of these sources range from a millicurie to a curie and the usage was involved in instrument calibration and repair and in teaching the principles of shielding, inverse square attenuation, and shielding for packaging. Additionally, certain sources which were encapsulated but not sealed were used for wipe testing studies and microcurie quantities of certain isotopes in solution were used in pipetting, evaporating, counting, etc. for teaching the principles of decontamination and health physics surveying.

It is the opinion of the instructors that all five (5) persons taking this course successfully passed all phases of this training program and are capable of assuming responsibility for radioisotopes in areas described in the preceeding paragraphs for each group.

Enclosed is a course outline with topics covered, type of presentation, and time.

Sincerely yours,

Philip Gill

PG:gh
Enc.

INDUSTRIAL USE OF ISOTOPES

Course Given by Isotopes Specialties Co.

COURSE OUTLINE

Mon. Dec. 1 - A.M.		Nuclear Fundamentals	
	Lecture	Matter, radiation, interaction of radiation with matter.	4 hrs.
		Units and Definitions	
	Lecture P.M.	Characteristics of Commonly Used Radio-Isotopes	2 hrs.
		Half-life, type and energy of radiation, chemical properties	
	Lecture	Principles of Radiation Detection	1½ hrs
	Demonstration		1/2 hr
		Ion chambers, proportional and G. M. counters, scintillators, film	
		Counting Instrument Familiarization	
Tues.Dec. 2 - A.M.		Quartz Fiber Dosimeters, Pocket Chambers, Analysis Units, R-Meters	
	Lecture & Demonstration		2 hrs.
	P.M.	Health Physics	
	Lecture		4 hrs
		Biological effects of radiation	
		Handling and safety practices	
	Laboratory	Calibration of Survey Instruments	2 hrs
		Laboratory work and discussion	
Wed.Dec. 3 - A.M.		Energy Determination by Absorption	
	Laboratory	Diminution of Radiation	4 hrs
		Shielding, distance, scatter, build-up	
	Lecture P.M.	Industrial Applications of Radioactive Materials	2
	Laboratory	Specific applications of current interest	2

Thurs. Dec. 4 -		A. M.	Legal Requirements and Administration	
	Lecture		Federal regulations, A.E.C., State and Local requirements, I.C.C. regulations, records	4 hrs
	Lecture		Radiation Limits and Levels	2 hrs
			Tolerance concepts	
			Public relations	
	Lecture	P. M.	Radiation Safety Practices	2 hrs
			Special emphasis on problems of current interest	
Fri. Dec. 5 -		A. M.	Design of Experiments Utilizing Radioisotopes	
	Lecture		Estimation of Statistical limitations, required activity, safety considerations, disposal problems, economic factors.	2 hrs
	Lecture		Industrial Uses of Isotopes	2 hrs
			Tracers, level gauges, thickness gauges, for radiation effects, etc.	
		P. M.	Industrial Uses of Isotopes (Cont'd)	4 hr
			Review and Examination	