R-7-82 A
EXHIBIT NO.

STATE OF CALIFORNIA—HEALTH AND WELFARE AGENCY GEORGE DEUKMEJIAN, Governor

Name

Organization DHS

DEPARTMENT OF HEALTH SERVICES
714/744 P STREET
SACRAMENTO, CA 95814
(916) 322-4990

Date 11-30-83

NOTICE OF PROPOSED CHANGES IN REGULATIONS OF THE DEPARTMENT OF HEALTH SERVICES REGARDING RADIOLOGIC TECHNOLOGY (R-7-82)

The Department of Health Services will hold a public hearing commencing at 10:00 a.m. on Nov. 30, 1983, in the Auditorium at 714 P Street, Sacramento, CA, at which time any person may present statements or arguments orally or in writing relevant to the proposed administrative action summarized below. The action is proposed pursuant to the authority vested by Sections 208 and 25668 of the Health and Safety Code and is to implement, interpret or make specific Sections 25668, 25668.1, 25671, 25674, 25675, 25677, 25686, 25689, 25694, 25699 and 25699.1 of the Health and Safety Code and Sections 15376 and 15378 of the Government Code.

Informative Digest:

The Radiologic Technology Act, Sections 25660 to 25699.3, inclusive, of the Health and Safety Code, provides for certification by the State of individuals who use or supervise the use of X-rays on human beings. The Act requires the establishment of standards of education, training and experience for persons who use X-rays on human beings and the establishment of means for assuring that these standards are met.

The existing regulations (Title 17, California Administrative Code, Chapter 5, Subchapter 4.5, Sections 30400 to 30468, inclusive) do not reflect the radiologic health and safety requirements commensurate with the current practice of radiologic technology. Furthermore, many are required to be repealed and some added by recent legislation. Consequently, this proposal is to repeal all of the existing regulations, with the exception of one section dealing with fees, and replace them with regulations that are current, meet the statutory requirements and provide for better protection to the people of California from unnecessary or excessive exposure to X-radiation.

The proposed regulations contain provisions for (1) training students in radiologic technology, (2) issuing of certificates and permits to X-ray unit operators, and (3) administering and enforcing the training and certification provisions. The effect of the proposed regulations is intended to enhance radiological health protection to the public by:

(a) Replacing general training standards with specific provisions that outline classroom, laboratory and supervised clinical education requirements designed to impart to the student essential knowledge for skills needed to perform X-ray procedures safely and effectively.

(b) Establishing limited permit categories and scopes that reflect the practices of licentiates of the healing arts and eliminating the restrictions on number of permits an individual is allowed to hold, providing that individual has had appropriate education, training and experience and has passed appropriate radiation safety and technology examinations. The scope of each

permit is made clear, as well as the restrictions, which prohibit a permittee from performing procedures that require extensive and prolonged education, training and experience.

(c) The proposed regulations require technologists, who use fluoroscopy equipment during patient exposure, to obtain special training in the use of such equipment and pass a State administered fluoroscopy permit examination. Thus, the Department will ascertain that only technologists who have acquired adequate proficiency in this area will be allowed to use fluoroscopy equipment. Furthermore, such equipment will have to be used only under adequate supervision of a qualified licentiate.

(d) Certification of licentiates of the healing arts under the proposed regulations will be made more effective. Under these regulations each licentiate will be able to select a certificate or permits (radiograph, fluoroscopy or dermatology) that reflect the needs of his or her practice.

Specifically, the proposed regulation changes in Title 17 of the California Administrative Code are:

(1) Repeal Sections 30400 through 30407, inclusive, and Sections 30409 through 30468, inclusive. (Note that Section 30408 on fees is retained.)

(2) Adopt new Section 30400 to define fluoroscopy.

(3) Adopt new Section 30401 to define radiography.

(4) Adopt new Section 30402 to require submission of an application as specified for a special permit and establish the term for which special permits are valid.

(5) Adopt new Section 30403 to specify how and when certificates and permits must be renewed and to require timely notification of name and address changes by certificate and permit holders.

(6) Adopt new Section 30404 to require display of certification documents.

(7) Adopt new Section 30405 to establish specific deadlines for processing applications to ensure timely and efficient handling of applications.

(8) Adopt new Section 30409 to establish conditions for reimbursement of application fees.

(9) Adopt new Section 30420 to require submission of an application and specified documents by applicants seeking approval of a school or course of study in radiologic technology.

(10) Adopt new Section 30421 to delineate the diagnostic radiologic technology school curriculum and specify the minimum classroom, laboratory and supervised clinical education requirements.

(11) Adopt new Section 30422 to specify the therapeutic radiologic technology school curriculum requirements.

(12) Adopt new Section 30423 to delineate the radiologic technology fluoroscopy curriculum and specify the minimum classroom hours and topics of instruction.

(13) Adopt new Section 30424 to delineate the limited permit X-ray technician school curriculum and specify minimum classroom and supervised clinical education requirements.

(14) Adopt new Section 30425 to specify the dental laboratory X-ray technician school curriculum.

(15) Adopt new Section 30426 to specify the course of study for photofluorographic chest X-ray technicians.

(16) Adopt new Section 30427 to specify the training conditions for dermatology X-ray technicians.

(17) Adopt new Section 30428 to specify information required by the Department to evaluate a request by a doctor-supervisor for offering on-the-job training in radiologic technology.

(18) Adopt new Section 30429 to specify conditions for clinical on-the-job training for each training category.

(19) Adopt new Section 30435 to specify documentation of changes in approved schools that must be provided to the Department.

(20) Adopt new Section 30436 to specify administrative remedies the Department may take to ensure that schools or training facilities comply with approval conditions.

(21) Adopt new Section 30440 to specify the requirements which candidates for technologist certificates must meet in order to receive a certificate.

(22) Adopt new Section 30441 to specify the criteria for an acceptable application for a radiologic technologist certificate.

(23) Adopt new Section 30442 to establish the limited permit X-ray technician categories.

(24) Adopt new Section 30443 to specify the scope of each limited permit category.

(25) Adopt new Section 30444 to specify the requirements to be met by an applicant in order to receive a limited permit.

(26) Adopt new Section 30445 to specify the criteria for an acceptable application for a limited permit.

(27) Adopt new Section 30446 to specify the title to be used by holders of limited permits.

(28) Adopt new Section 30447 to specify restrictions for limited permittees.

(29) Adopt new Section 30460 to require that any radiologic technologist must obtain a radiologic technologist fluoroscopy permit in order to use fluoroscopy equipment semi-independently during the exposure of a patient.

(30) Adopt new Section 30461 to specify requirements to be met by applicants for radiologic technologist fluoroscopy permits.

(31) Adopt new Section 30462 to specify criteria for acceptable applications for radiologic technologist fluoroscopy permits.

(32) Adopt new Section 30463 to specify restrictions placed on possessors of radiologic technologist fluoroscopy permits.

(33) Adopt new Section 30480 to specify the certificate category for licentiates of the healing arts.

(34) Adopt new Section 30481 to establish permit categories for licentiates of the healing arts.

(35) Adopt new Section 30482 to require any licentiate of the healing arts who practices as a radiologist to hold a radiology supervisor and operator certificate issued by the Department.

(36) Adopt new Section 30483 to require that any licentiate of the healing arts who uses fluoroscopy equipment, or directly controls radiation exposure to the patient during the fluoroscopy procedure, or supervises X-ray technician personnel shall possess a licentiate fluoroscopy permit.

(37) Adopt new Section 30484 to require any licentiate of the healing arts who uses radiography X-ray equipment or supervises X-ray technician personnel who use such equipment to possess a radiography supervisor and operator permit.

(38) Adopt new Section 30485 to require dermatologists who use X-ray equipment to obtain a dermatology supervisor and operator permit issued by the Department.

(39) Adopt new Section 30486 to specify the conditions for issuance of licentiate permits and certificates.

(40) Adopt new Section 30487 to provide for certification of qualified licentiates.

(41) Adopt new Section 30488 to specify criteria for acceptable applications for a licentiate certificate or permit.

Fiscal Impact Estimate:

A. Fiscal Effect on Local Government: No fiscal impact.

B. Fiscal Effect on State Government: Additional expenditures of $45,000 annually and additional revenues of approximately $95,000 and $150,000 in alternate years.

C. Fiscal Effect on Federal Funding of State Programs: No fiscal impact.

D. Fiscal Effect on Private Persons or Businesses Directly Affected: These regulations would have a fiscal impact on individuals applying for permits and certificates as a number of new permits have been established and the limit on the number of permits and certificates an individual can apply for has been removed. The fiscal impact to the individual would depend on the number of permits and certificates applied for by the private person.

E. Fiscal Effect on Small Businesses: Small businesses may benefit through better utilization of X-ray technicians made possible through expanded permit categories. There would be no adverse fiscal impact.

The Department has determined that the proposed regulations do not impose a new mandate on local agencies or school districts. The Department has further determined that the proposed action will not have a significant adverse economic impact on small businesses.

The Department of Health Services has prepared and has available for public review an initial Statement of Reasons for the proposed action, all the information upon which the proposal is based, and the express terms of the proposed action. A copy of the initial Statement of Reasons and a copy of the express terms of the proposed action are available upon request by writing to the Office of Regulations, Department of Health Services, 714 P Street, Sacramento, CA 95814, which address will also be the location of public records, including reports, documentation and other materials related to the proposed action.

The Department of Health Services, upon its own motion or at the instance of any interested person may, after the above noticed public hearing, take the proposed action without further notice. The full text of any regulation which is changed or modified from the express terms of the proposed action will be available for review at the Department's Office of Regulations at least 15 days prior to the date on which the Department takes the proposed action.

Other regulation changes may be scheduled for hearing at the same time appointed for public hearing on the proposed action described in this notice. An agenda for the public hearing will be posted at the time and place of hearing designated above.

Any written statements or arguments must be received by the Department by 5:00 p.m. on November 30, 1983, which is hereby designated as the close of the written comment period. Written statements or arguments should be submitted in duplicate to the Department's Office of Regulations at the address noted above.

Inquiries concerning the proposed administrative action may be directed to Ron C. Wetherall, Chief, Office of Regulations, at (916) 322-4990.

DEPARTMENT OF HEALTH SERVICES
Richard H. Koppes for

R-7-82

Dated: 8/31/83

Peter Rank
Director

STATEMENT OF REASONS

The Radiologic Technology Act requires the establishment of standards of education, training, and experience of persons who use X-rays on human beings. The express purpose of these standards is protection of the people from excessive or improper exposure to X-radiation. The proposed regulations will accomplish these mandates by (1) establishing minimum hours of classroom instruction, specifying X-ray laboratory experiments, and establishing supervised clinical training provisions for radiologic technologists and X-ray technicians; (2) delineating permit scopes to reflect the scope of practices of licentiates for whom these individuals will be performing X-ray examinations; and (3) providing for licentiate certificates and permits which reflect the needs of professional practice.

Since 1970, when the radiologic technology regulations were originally adopted, the field of X-ray technology has significantly expanded, and new X-ray imaging modalities have been developed. (See Attachments 1-3 explaining some of these modalities.) Thus, regulations that take into consideration current equipment have been proposed.

The proposed regulations are divided into five groups: (1) Administration, (2) Training of Students of Radiologic Technology, (3) Certification for Radiologic Technologists and Permits for Limited Permit X-ray Technicians, (4) Use of Fluoroscopy Equipment by Radiologic Technologists, and (5) Certification of Licentiates. Each group will be summarized and followed by a discussion of sections within each group.

Group 1. Administration, Sections 30400 to 30405, inclusive, and 30409. This group: (1) defines special terms to distinguish between X-ray imaging modalities; (2) provides for methods whereby requests for temporary exemptions from certification requirements, as specified in the statutes, may be evaluated; (3) specifies procedures for renewal and display of authorizing documents to enable the certification laws to be effectively enforced; (4) spells out time limits within which both the Department and the applicant must act in order to expedite orderly issuance of certifying documents; (5) explains the appeal process for applicants; and (6) provides for reimbursement of the application fee if the Department fails to abide by the application processing time requirements.

Section 30400 defines fluoroscopy (X-rays used for dynamic motion studies) and is needed to differentiate this modality from that of radiography ("still pictures") which is defined in Section 30401. The distinction between these modalities is necessary so that different training requirements can be specified for persons who are permitted to use each type of equipment. Different training requirements are needed because there are different degrees of potential risk to patients and operators, fluoroscopy equipment being more subject to misuse. In the past, fluoroscopy was performed only by licensed practitioners who had received postdoctoral education and training. However, the newest types of equipment deliver less exposure to patients and for limited procedures can be safely used by persons with training that is less extensive than that required formerly.

Section 30402 requires the applicant to submit an application for a special permit and provides that the term for which this permit is valid may not exceed one year. This section is needed to enable the Department to initially evaluate the request and, then after one year, to reevaluate conditions for which an exemption from the certification requirements is again being sought.

Section 30403 specifies how and when certificates and permits must be renewed and requires timely notification by certificate and permit holders of name and address changes. This section is needed to enable the Department to administer the statutory requirements for renewal of certification documents in an orderly and consistent manner. At the time of renewal, 20 to 25 percent of all certification renewal notices mailed are returned to the Department as undeliverable because of incorrect or obsolete addresses. This results in a return of approximately 4,000 to 5,000 renewal notices and an annual direct cost estimated at $2,000 to $2,400, not counting staff time to answer late notifications of address changes.

The 30-day prior notification period is needed to account for the time involved in processing fee payments (the average time span for processing checks in our accounting department has been 14 days), preparation of certification documents (printing of certificates and permits, collating these, delivering to the Radiologic Health Branch), and mailing of certification documents.

Section 30404 requires display of certification documents. It is needed to allow both patients and state inspectors to ascertain whether the person performing X-ray procedures on patients holds a valid certificate or permit for those procedures.

Section 30405 creates a system of specific deadlines for processing applications to ensure timely and efficient handling of certificate and permit applications (see Attachment 4). A maximum time of 30 calendar days is needed to respond to an applicant because of the total number of applications received (900 per quarter) and the limited personnel resources available (2 regular reviewers). Average time for review of one application, including scheduling for examination (but not processing examination results), is one hour.

A maximum time of 240 calendar days is needed for applicants to comply with all of the requirements for issuance of certificates or permits and for passing the required examinations. Departmental examinations are given at least once a month (see Attachment 4).

Thirty calendar days is the maximum time needed to notify the applicant in writing of the Department's final decision regarding the application. Within this time, there are approximately 15 calendar days allocated for scoring of tests. This task is done by the California Cooperative Personnel Services and is predicated upon their access to data processing equipment. This section also establishes procedures an applicant must follow for appealing a Department decision or for obtaining redress for unjustified delay by the Department.

Section 30409 establishes conditions for reimbursement of application fees in cases where there is unjustified delay by the Department. This section is needed in order to accommodate provisions of the Permit Reform Act of 1981.

Group 2. Training of Students of Radiologic Technology, Sections 30420 to 30429, inclusive, and 30435 and 30436. This group specifies the conditions under which schools for training students of radiologic technology may obtain Department approval. It requires the filing of application and gives detailed minimum curriculum requirements for students to become diagnostic or therapeutic radiologic technologists. It specifies the changes that require notification and gives conditions under which disciplinary action against a school or training facility may be carried out. Regulations are needed in this area because the subjects and practices students of radiologic technology are taught determine how safely they will use X-rays on human beings. The specific training areas listed in the proposed regulations have a direct bearing on patient and operator health and safety.

Section 30420 requires submission of an application and documents which will give the Department sufficient information to evaluate the school or the proposed course of study. It is needed to advise schools of their minimum obligations and supply the Department information to evaluate schools or courses of study.

Section 30421 outlines the diagnostic radiologic technology school curriculum and specifies the minimum classroom, laboratory, and supervised clinical education requirements. The 500 hours of formal classroom instruction and subjects to be included therein are needed to impart sufficient information to enable performance of approximately 4,500 tasks that encompass the field of diagnostic radiologic technology. This number of tasks has been derived from calculations made using information contained in standard diagnostic radiologic technology textbooks, which contain a total of 3,000 pages, and from other documents such as the Curriculum Guide for Programs in Radiologic Technology, American Society of Radiologic Technologists, September 1976, or from the task analyses done by the Educational Training Service in Princeton.

A total of 150 laboratory hours are needed to give each student an opportunity to acquire the needed psychomotor skills in a simulated clinical setting. That is, before X-raying live patients, students must first take X-rays of phantoms (manikins made to represent human flesh and bones). This approach minimizes exposure of patients during training. The laboratory texts have approximately 600 pages, and the information contained in them can be imparted in 150 hours of laboratory work.

The requirement of 1,850 hours of supervised clinical education is based on the time and number of procedures that must be completed to assure competency in performing all routine type X-ray procedures. The time required to perform an X-ray procedure is often expressed in "unit values", where each unit is assigned eight-minute time intervals. The unit values for various procedures used in arriving at 1,850 hours are based on the time unit values used by the Veterans' Administration hospitals.

Section 30422 outlines the therapeutic radiologic technology school curriculum requirements. The 455 hours of classroom instruction are needed to impart information on tasks which a therapeutic radiologic technologist will most likely perform on the job. These hours can be corroborated, as in the case of diagnostic radiologic technology classroom hours, based on performance objectives and information contained in the standard therapeutic textbooks. A total of 150 laboratory hours, the experiments specified, and the 1,500 hours of supervised clinical education are based on criteria similar to those for the diagnostic radiologic technology schools and are needed to prepare each student adequately for assisting doctors in the treatment of the diseases and for employment as a therapeutic radiologic technologist.

Section 30423 outlines the radiologic technology fluoroscopy classroom curriculum and specifies the minimum laboratory requirements. In the past, the use of fluoroscopy equipment was restricted to licentiates with appropriate education and experience. However, a study (reference 1) conducted by the Radiologic Health Branch on the use of fluoroscopy equipment in California hospitals showed that approximately 30 percent of the technologists who work in general acute care hospitals use and operate fluoroscopy equipment for limited types of procedures during patient exposure. The study also showed that most of the technologists who operate fluoroscopy equipment have received inadequate specialized training in the use of such equipment in this manner. The curriculum is designed to ensure that graduates will be able satisfactorily to use fluoroscopy equipment to assure safety to patients, themselves, and others. Basically, technologists will be recording images for review and interpretation by a qualified certified practitioner.

Section 30424 outlines limited permit X-ray technician school classroom curricula and specifies minimum laboratory and supervised clinical education requirements. The minimum time limit of 6 months for the course of study is based on ability to learn approximately 1,500 tasks that encompass the limited permit field. Thus, by studying 5 days per week for 6 months, the student must learn at least 11 tasks per day. In comparison, medical students must learn on the average 30 to 45 tasks per day. The minimum of three months of supervised clinical education in each category is needed to give each student time to learn adequately all routine radiographic procedures within each category. The time is based on evidence that during the supervised clinical education students do not devote more than five to ten percent of their working time to tasks involving taking X-rays. These requirements are based on training equivalent to that for certified radiologic technologists and were selected to ensure that limited permittees are sufficiently trained in their area or areas of work to provide for protection of the health and safety of the public.

Section 30425 describes the dental laboratory X-ray technician school curriculum. The dental laboratory radiography field contains over 1,500 tasks. Each student must take approximately 2,000 films of the oral cavity. The rate of learning of these tasks and the performance of the clinical procedures are based on considerations similar to those outlined in Section 30424. The length of clinical education and training is predicated upon

the number of X-ray procedures each student is required to perform to ensure safe and efficient performance of all routine type dental procedures.

Section 30426 describes the course of study for photofluorographic chest X-ray technicians. Because photofluorographic chest X-ray technicians use semiautomated equipment, the total number of tasks each individual must learn is reduced compared with those who perform regular chest X-ray procedures. Thus, only some 250 tasks must be learned. The minimum time limit is "prorated" with respect to the chest permittee training. The maximum time limit is needed to induce students to complete training. Because most of the photofluorographic chest X-ray equipment is operated by sheriff's deputies who are rotated through their duty assignments, prolonging their training beyond two months would mean that in many instances officers would be transferred to other duties before their X-ray training is completed.

Section 30427 outlines the training conditions for dermatology X-ray technicians. The classroom instruction, the supervised clinical experience, and the time requirements are prorated based on the therapeutic school curriculum relating specifically to diseases of the skin, thus providing for public health and safety.

Section 30428 outlines documentation needed by the Department to evaluate a request by the doctor-supervisor for offering on-the-job training and is needed to obtain basic proposed training information in a consistent and orderly manner. The training schedule is needed to ascertain that effective and safe training will be given.

Section 30429 gives conditions for clinical on-the-job training for each training category. Supervised clinical education requirements for on-the-job training categories are similar to those of corresponding areas of training of diagnostic radiologic technologists or limited permit X-ray technicians undergoing training in an approved school. The X-ray clinical experience is stated in minimum hours rather than in number of procedures to be performed because doctors' offices or clinics may not have the same number or variety of X-ray procedures that are performed in hospital radiology departments. Nevertheless, each student-trainee must receive comparable clinical education to one obtaining training in an approved school. Thus, more time may be needed for film critiques or related activities than would be the case in an approved school training situation where the training can be and is much more structured.

The restriction to offer clinical training in one category at any one time is needed to help the trainee learn procedures effectively and give the Department an opportunity to test the trainee before training in an additional category is started. Past experience regarding the on-the-job training shows that approximately one-half of the trainees fail the state certification examination. Statistical evidence points to the fact that those who fail the state test have taken upon themselves a higher burden of learning and training than they are capable within the limited time available. Requiring that a trainee be trained in one category at a time will give the trainee a better opportunity to pass the state examination, and also it will ensure better radiological health care delivery.

Section 30435 specifies documentation of changes in approved schools that must be provided to the Department. The departmental approval is predicated upon continued maintenance of the approval provisions. Any changes regarding the program director, faculty, course offerings, or affiliation agreements must meet the approval conditions, and consequently, these changes must be evaluated by the Department. Change in facility location may result in the new physical facilities not meeting the approval conditions. Current telephone number is needed to ensure timely communication with the school.

The Department must have the names and addresses of students who have graduated to communicate with them regarding State's certification requirements. The names and addresses of students who have been dismissed, suspended, or who have voluntarily discontinued their clinical education in radiologic technology must be made available to the Department to advise such persons that their student exemption from certification requirements has terminated.

Section 30436 outlines administrative remedies the Department may take to ensure that the approval conditions are complied with. This section is needed to make sure that only schools or training facilities which maintain approval conditions continue to operate.

Group 3. Certificates for Radiologic Technologists and Permits for Limited Permit X-ray Technicians, Sections 30440 to 30447, inclusive. This group: (1) specifies limited permit categories and scope of practice, (2) outlines examination requirements for radiologic technologists and limited permittees, (3) prohibits practices for which candidates have not been trained, (4) specifies acceptable applications, and (5) provides for a title for limited permit holders. Regulations are needed in this area to clearly delineate type of certificates issued in relation to the type and extent of education, training, and clinical experience received; the examinations required; and other conditions for approval of each type of application, to ensure safe and effective taking of radiographs.

Section 30440 tells candidates for technologist certificates what they have to do to receive a certificate. This section is needed to clearly outline under what conditions an individual is entitled to a certification document. The passing of separate tests is needed to assess proficiency in performing the full scope of diagnostic radiographic examinations and to ascertain that these tasks are performed with the least exposure to the patient and the operator.

Section 30441 tells applicants to submit applications on forms furnished by the Department, pay application fees, and show evidence of graduation from an approved school of radiologic technology. This section is needed to comply with the statutory requirements of collecting application fees and collecting information about the applicant in a consistent and uniform manner.

Section 30442 lists limited permit categories. These categories reflect the scope of practice involving the use of X-rays by those licentiates of the healing arts who limit their practice to certain areas of the human

body. These categories are needed to allow a doctor to train office personnel, whose principal functions are other than taking X-rays, to perform only those X-ray procedures that are needed in the doctor's practice. Those specialists who need X-ray assistance in more than one body area will require the X-ray technician to obtain additional education and training and hold more than one permit.

Section 30443 outlines the scopes of each permit category and is needed to describe the anatomical areas of procedures to which persons who hold limited permits in corresponding categories are restricted.

Section 30444 spells out what an individual has to do to receive a limited permit. This section is needed to clearly outline under what conditions an individual is entitled to a certification document. The passing of separate tests is needed to assess proficiency in the area of taking diagnostic quality radiographs and to ascertain that these radiographs are taken with the least exposure to the patient and the operator.

Section 30445 tells an applicant to submit an application on forms furnished by the Department, pay the application fee, and show evidence of appropriate education and training in the radiologic technology field. This section is needed to comply with the statutory requirements of collecting application fees and obtaining information about the applicant in a consistent and uniform manner.

Section 30446 gives the title which can be used by over 4,000 individuals who hold limited permits. It is needed to clearly distinguish between the X-ray technologists' title provided by the statute and others whose involvement in X-ray technology is generally not a full-time occupation, and who have less extensive training than radiologic technologists.

Section 30447 lists restrictions for limited permittees. Specific procedures and special X-ray and ancillary equipment that are generally used only in hospitals or in hospital radiology departments are included in the list of prohibitions because the time required to acquire knowledge to safely use such equipment is too limited for X-ray technician training. These restrictions are needed to ensure that only appropriately educated and trained individuals use specialized X-ray equipment. These prohibitions will not interfere with the supervising licentiate's practice and will promote public health and safety.

Group 4. Use of Fluoroscopy Equipment by Radiologic Technologists, Sections 30460 to 30463, inclusive. This group provides for permits for those radiologic technologists who may be assigned by the supervising doctor the semi-independent use of fluoroscopy equipment. When the original statutes were enacted in 1969, the use of fluoroscopy equipment was the exclusive prerogative of radiologists or other specially trained practitioners. Fluoroscopy procedures as a rule deliver considerably more radiation to the patient than do radiographic procedures. Fluoroscopy is like a "motion picture" and the use of fluoroscopy and ancillary equipment requires considerable education, training, and expertise in order, without delay, to recognize anatomical structures on the "movie screen". However, fluoroscopy equipment and accessory equipment design (such as video disc) has made this

modality widespread and procedures safer both to the patient and the operator, and therefore, requiring permits for technologists to use fluoroscopy equipment will meet the needs of modern medical practice while assuring patient and operator protection.

Section 30460 requires that any technologist must obtain a radiologic technologist fluoroscopy permit to use fluoroscopy equipment semi-independently during the exposure of the patient. A recent study (reference 1) by the Radiologic Health Branch on the use of fluoroscopy equipment in California hospitals showed that most of the technologists who were permitted to operate fluoroscopy equipment have had no formal education or training in the use of such equipment during exposure of a patient. This regulation is needed to assure that only qualified technologists are permitted to use fluoroscopy equipment.

Section 30461 tells candidates for technologist fluoroscopy permits what they have to do to receive a fluoroscopy permit. This section is needed in order to clearly outline under what conditions an individual is entitled to a technologist fluoroscopy permit. The passing of a fluoroscopy radiation protection examination is needed in order to assess proficiency in the use of fluoroscopy and ancillary equipment.

Section 30462 tells applicants to submit applications on forms furnished by the Department, pay application fees, and show evidence of appropriate education, training, and experience. This regulation is needed to give applicants a clear idea what they have to do in order for their applications to be considered acceptable by the Department.

Section 30463 prohibits a technologist holding a fluoroscopy permit from making a diagnostic interpretation of a fluoroscopic image and also prohibits substituting fluoroscopy for the skill acquired during training and experience in positioning patients for standard radiographic procedures. This regulation is needed in order to make it clear that the semi-independent use or operation of fluoroscopic equipment does not confer upon a technologist the right to function as a licentiate of the healing arts.

Group 5. Certification of Licentiates of the Healing Arts, includes Sections 30480 to 30488, inclusive. This group describes the categories of certification documents licentiate-specialists must possess to use or to supervise the use of X-rays in their practices. This group also prescribes conditions whereby licensed practitioners can qualify for certificates or permits. Regulation of licentiates of the healing arts in the area of X-ray use is necessary because by requiring knowledge of basic radiation protection and safe practice in the use or supervision of use of X-rays, patient and operator health and safety are safeguarded.

Section 30480 gives the certificate category for licentiates and is needed to distinguish between those licentiate-specialists who provide radiology services, that is, who use X-rays in their practice as the primary tool for the detection or diagnosis or treatment of human illness or injuries, and licentiates who use X-rays as an adjunct to their practice.

Section 30481 lists licentiate permit categories. A study by the Radiologic Health Branch on the use of fluoroscopy equipment in California hospitals showed that a variety of specialists use and supervise the use of fluoroscopy equipment (reference 1). This study also revealed that the assistance of nonlicentiate technical support personnel is indispensable for these specialists during their use of fluoroscopy equipment. Consequently, the supervision and the operation of X-ray generating equipment cannot be separated. Separate permits are needed to accommodate the equipment and practices of the various licentiate specialists.

Section 30482 states that a radiology certificate is required of any licentiate who practices as a radiologist and is needed to explain clearly who must possess such certificate.

Section 30483 states that any licentiate who uses fluoroscopy equipment, or who directly controls radiation exposure to the patient during the fluoroscopy procedure, or who supervises X-ray technical personnel, must possess a licentiate fluoroscopy permit. Many licentiates use or supervise the use of fluoroscopy equipment only. Requiring that they exhibit proficiency only in this area would enhance public radiation health and safety.

Section 30484 requires any licentiate who uses radiography X-ray equipment or who supervises X-ray technical personnel who use such equipment to possess a radiography supervisor and operator permit. This section is needed to assure that only competent and knowledgeable licentiates use and supervise the use of radiography X-ray equipment.

Section 30485 refers to the use of dermatology X-ray therapy equipment and requires any dermatologist to obtain a dermatology permit. This section is needed to provide for certification of specialists whose practice involving X-rays is limited to dermatology therapy procedures.

Section 30486 outlines the conditions for issuance of licentiate certificates or permits. This section is needed to clearly state that a licentiate must qualify by passing appropriate examinations to be issued a certificate or a particular permit or permits.

Section 30487 exempts radiologists who are certified by a national radiology certification board from taking state examinations. This section is needed to avoid requiring that these individuals take the state radiation health and safety examination.

Section 30488 tells applicants to submit applications on forms furnished by the Department, pay application fees, and show evidence of appropriate education, training, and experience. This regulation is needed to give applicants a clear idea what they have to do in order for their applications to be considered acceptable by the Department.

Reference 1: "The Use of Fluoroscopy Equipment in California Hospitals", Department of Health Services, October 1981.

Fiscal Impact Estimate

A. Fiscal Effect on Local Government: No fiscal impact.

B. Fiscal Effect on State Government: Additional expenditures of $45,000 annually and additional revenues of approximately $95,000 and $150,000 in alternate years.

C. Fiscal Effect on Federal Funding of State Programs: No fiscal impact.

D. Fiscal Effect on Private Persons or Businesses Directly Affected: These regulations would have a fiscal impact on individuals applying for permits and certificates as a number of new permits have been established and the limit on the number of permits and certificates an individual can apply for has been removed. The fiscal impact to the individual would depend on the number of permits and certificates applied for by the private person.

E. Fiscal effect on Small Businesses: Small businesses may benefit through better utilization of X-ray technicians made possible through expanded permit categories. There would be no adverse fiscal impact.

The Department has determined that the proposed regulations do not impose a new mandate on local agencies or school districts. The Department has further determined that the proposed action will not have a significant adverse economic impact on small businesses.