Medical Screening Reference Manual for Security Force Personnel at Fuel Cycle Facilities Possessing Formula Quantities of Special Nuclear Materials

Manuscript Completed: August 1991
Date Published: September 1991

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Prepared for
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NRC FIN L1239

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ABSTRACT

The recommendations contained throughout this NUREG were provided to the Nuclear Regulatory Commission (NRC) as medical screening information that could be used by physicians who are evaluating the parameters for the safe participation of guards, Tactical Response Team members (TRTs), and all other armed response personnel in physical fitness training and in physical performance standards testing. The information provided in this NUREG will help licensees to determine if guards, TRTs, and other armed response personnel can effectively perform their normal and emergency duties without undue hazard to themselves, to fellow employees, to the plant site, and to the general public. The medical recommendations in this NUREG are similar in content to the medical standards contained in 10 CFR Part 1046 which, in part, specifies medical standards for the protective force personnel regulated by the Department of Energy. The guidelines contained in this NUREG are not requirements, and compliance is not required.

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ACKNOWLEDGEMENTS

This author would like to thank Carrie Brown, Donald Kasun, and Philip Ting from the NRC Division of Safeguards and Transportation as well as Harry Tovmassian from the Division of Regulatory Applications for all of their help in setting up and assisting with this NUREG. From California State University at Hayward, special thanks go to Kathryn Arzino, Editor, C. Harmon Brown, M.D., Medical Advisor, and Herbert Graw, Ed.D., Quality Assurance Advisor.

Respectfully submitted,

A handwritten signature in cursive script, reading "Phillip A. Arzino".

Phillip A. Arzino
Principal Investigator

1 INTRODUCTIONS

1.1 Background

1.1.1 The United States Nuclear Regulatory Commission (NRC) is amending 10 CFR Part 73 to include 10 CFR Part 73.46(b)(10 and 11) which specifies requirements for a physical fitness training program as well as for objectively measurable physical performance standards for guards, Tactical Response Team members (TRTs), and all other armed response personnel at NRC-licensed Category 1 fuel facilities. (Hereafter, the inclusive terms of "security force personnel" or "security force person" will be used to reference all three personnel classifications.) This NUREG will serve as an aid to physicians in developing medical guidance for these new requirements.

1.1.2 Current regulations specify that armed security force personnel should have no physical weaknesses or abnormalities that would adversely affect their performance of assigned security job duties. No standards exist, however, for assuring that security force personnel are sufficiently physically fit to perform their regular or potential duties. Additionally, there are no criteria for an ongoing physical fitness training program which will reasonably assure fitness maintenance without unduly endangering the health of those participating in it.

1.1.3 The United States Department of Energy (DOE) has already adopted regulations which set forth medical and physical performance qualification standards for their protective force personnel. The purpose of the standards is to ensure that protective force personnel at DOE facilities can effectively perform their normal and emergency duties without undue hazard to themselves, to fellow employees, to the plant site, or to the general public. Generally, the rules require incumbent and applicant protective force personnel at government-owned facilities to meet certain medical and physical fitness qualification standards which were professionally developed and validated to predict the successful accomplishment of common emergency scenarios. Additionally, 10 CFR Part 1046 requires incumbent protective force personnel to participate in an ongoing physical fitness training program.

1.2 Purpose and Scope

This NUREG provides guidance to physicians for use in developing medically sound criteria which reasonably assure that security force personnel at NRC-licensed Category 1 fuel facilities can

- participate in an ongoing physical fitness training program,
- be tested against performance standards as will be defined in 10 CFR 73.46(b)(10 and 11), and
- effectively perform their normal and emergency duties without undue hazard to themselves, to fellow employees, to the plant site, and to the general public.

1.3 Organization of the Report

1.3.1 Section 1 provides the background, the purpose and scope, and the organization of this NUREG.

1.3.2 Section 2 describes the intended applicabilities of this NUREG.

1.3.3 Section 3 delineates both the recommended and the required administrative procedures as they relate to medical confidentiality and the retention of medical reports, changes in the health status of security force personnel, and the use of corrective devices.

1.3.4 Section 4 specifies fitness for duty considerations including consequential medical certifications, medical waivers, and medical time extensions.

1.3.5 Section 5 clarifies the scope of a physical examination as it relates to physical fitness for duty.

1.3.6 Section 6 furnishes both the recommendations of these authors and the regulations contained within 10 CFR 73 as to the specific minimum qualifications for medical fitness for duty that a licensed physician should consider in the course of a medical evaluation.

1.3.7 Section 7 indicates the recommended medical disqualifiers for security force personnel, as well as those disqualifiers which are regulated in 10 CFR 73, Appendix B. These disqualifiers are intended to provide objective criteria by which individuals will not be subjected to physical job requirements which may endanger their general health.

2 APPLICABILITY

2.1 General

2.1.1 This NUREG recommends the minimum medical qualifications, criteria, and guides to be used by licensed physicians and licensees in determining whether the medical condition of security force personnel reasonably assures that they can

- participate in an ongoing physical fitness training program,
- be tested against performance standards as will be defined in 10 CFR 73.46(b)(10 and 11), and
- effectively perform their normal and emergency duties without undue hazard to themselves, to fellow employees, to the plant site, and to the general public.

2.1.2 Wherever regulations contained within 10 CFR 73, Appendix B are included, ***the specific references shall be printed in 12 point bold and italicized print as is demonstrated in this sentence.*** To aid in the reader's understanding, these excerpts from 10 CFR 73, Appendix B are edited to leave out medical compliance information for unarmed personnel. These highlighted sections are regulations contained within 10 CFR 73.

2.2 Application of Medical Guidelines

2.2.1 The recommendations in this NUREG are considered by these authors to be the minimum necessary to determine the medical capability of security force personnel to perform all normal and emergency duties effectively and safely.

2.2.2 *At least every twelve months, security force personnel shall be required to meet the physical (and medical) requirements of 10 CFR 73, Appendix B. The licensee shall document each individual's physical (and medical) requalification and shall retain this documentation of requalification as a record for three years from the date of each requalification. The results of suitability, physical and mental qualifications data, and test results must be documented by the licensee or the licensee's agent. The licensee or agent shall retain this documentation as a record for three years from the date of obtaining and recording these results. (Excerpted from 10 CFR 73, Appendix B:I.E.)*

2.2.3 Security force personnel applicants should meet the medical recommendations contained herein prior to assignment to duty.

2.2.4 Incumbent security force personnel should meet the applicable medical standards in this NUREG prior to assignment to armed positions and annually thereafter.

2.2.5 The determination of whether or not the security force person meets the medical standards in this NUREG should be made by a licensed physician.

2.2.6 When a licensed physician determines that special medical evaluations and practical performance tests are necessary in order for a security force person to demonstrate his/her abilities to perform all normal and emergency duties, a determination of the adequacy of performance should be made by a licensed physician.

2.2.7 For those facilities where it is necessary to determine the medical qualification of incumbent or applicant TRT personnel to perform special assignment armed duties which might require exposure to unusually high levels of stress or physical exertion, a licensed physician, in cooperation with licensee management and licensee fitness coordinators, may develop more stringent medical qualification requirements or additional medical or physical tests as necessary for such determinations.

3 ADMINISTRATIVE PROCEDURES

3.1 Medical Confidentiality and Retention of Medical Reports

3.1.1 The medical information and data on each employee or applicant should be maintained as confidential and privileged medical information and should not be released by a licensed physician without the written consent and release of the employee or applicant except as permitted or required by law.

3.1.2 When an individual has been examined by a licensed physician, all available history and test results should be retained by the examining physician or licensee contractor medical department whether or not the individual completes the examination and whether or not potentially disqualifying defects are recorded.

3.2 Change in Health Status of Security Force Personnel

3.2.1 *An individual who has been incapacitated due to a serious illness, injury, disease, or operation which could interfere with the effective performance of assigned security job duties shall, prior to resumption of such duties, provide medical evidence of recovery and of the ability to perform such security job duties.*

(Excerpted from 10 CFR 73, Appendix B:I.B.1.b.(5))

3.2.2 It should be the specific responsibility of security force personnel to immediately report to their supervisor any known or suspected change in their health which might impair their capacity for duty or for the safe and effective performance of assigned job duties.

3.2.3 Supervisory personnel should have the obligation to make a timely report to the responsible evaluating physician on any behavioral or health changes or deterioration in work performance that is observed in security force personnel under their jurisdiction. Examples of areas that may indicate medical and emotional problems include incidents of ineptness, poor judgment, lack of physical or emotional stamina, social incompatibility, excessive absence, lateness, and a tendency to become accident prone.

3.2.4 A return-to-work medical evaluation should be required after any absence of five or more scheduled work days due to illness or injury or after any surgery, including out-patient surgery.

3.2.5 Security force personnel should be medically evaluated after any absence due to occupational illness or injury.

3.2.6 *The licensee shall arrange for continued observation of security force personnel and for appropriate corrective measures by responsible supervisors for indications of emotional instability in individuals in the course of performing assigned security job duties. Identification of emotional instability by responsible supervisors shall be subject to verification by a licensed, trained person.* *(Excerpted from 10 CFR 73, Appendix B:I.B.2.c.)*

3.3 Use of Corrective Devices

3.3.1 When the use of corrective devices, such as eyeglasses and hearing aids, is required in order to enable a security force person to successfully meet medical qualification requirements, a determination should be made by a designated supervisory authority that the use of all such devices is compatible with all emergency and protective equipment that the security force person may be required to wear or use while performing his/her assigned job duties.

3.3.2 It should be incumbent upon licensee management to exercise all reasonable and practical effort to adapt required emergency and protective equipment for the use of corrective devices, including the provision of equally effective alternate equipment if such is available.

3.3.3 *Where corrective eyeglasses are required, they shall be of the safety glass type. The use of eyeglasses or contact lenses shall not interfere with an individual's ability to effectively perform assigned security job duties during normal or emergency operations.* *(Excerpted from 10 CFR 73, Appendix B:I.B.(1)(b),(c))*

3.3.4 Hearing aids are acceptable, provided that suitable testing procedures demonstrate auditory acuity equivalent to the above stated requirement (listed in Section 6 of this NUREG). **The use of hearing aids shall not decrease the effective performance of the security force person's assigned security job duties during normal or emergency operations.** (Excerpted from 10 CFR 73, Appendix B:I.B.1.b.(1)(b),(c), and (2),(b),(c))

4 FITNESS FOR DUTY

4.1 General

4.1.1 The licensee, in consultation with a responsible evaluating physician, should have the ultimate decision in determining the individual's fitness for duty as it relates to specific job requirements. The decision should be based upon personal and family history, the physical examination, any laboratory results and/or findings, physical fitness assessments, performance requirements, and previous performance on the physical performance qualification test.

4.1.2 Individuals whose security tasks and job duties are directly associated with the effective implementation of the licensee physical security and contingency plans shall have no physical weaknesses or abnormalities that would adversely affect their performance of assigned security job duties. (Excerpted from 10 CFR 73, Appendix B:I.B.1.a.)

4.2 Medical Certifications

4.2.1 Specifically, three certifications should be required from the responsible evaluating physician:

- Certification of Fitness for Duty
- Supervision Concerns for the Physical Fitness Program
- Clearance for the Physical Performance Standard Attempt

4.2.2 Certification of Fitness for Duty: This is a certification that the security force person is medically qualified for that position based upon meeting the medical standards of 10 CFR 73 and utilizing the recommendations contained within this NUREG. This certification should be issued at the time of employment and annually thereafter. A record of the certification should be kept by the licensee fitness coordinator. An example of this certification is provided as Appendix A.

4.2.3 Supervision Concerns for the Physical Fitness Program: This is a certification of readiness to participate in an ongoing physical fitness training program. This certification should be issued to the licensee fitness coordinator after each quarterly physical fitness assessment or subsequent to a change in the individual's health status. An example of this certification is provided as Appendix B.

4.2.3.1 This certification defines the parameters of supervision for the security force person. This person should be placed into one of three levels of care:

- Cleared for minimally supervised training
- Cleared for directly supervised training
- Cleared for monitored training

4.2.3.2 Cleared for Minimally Supervised Training: Minimally supervised training is indicated for healthy individuals. Supervision should consist of periodic reviews by the fitness staff for fitness evaluation and direction. General guidelines for exercise should be provided by the licensee fitness coordinator as needed. Parameters should be set for the frequency, duration, mode, and intensity of exercise.

4.2.3.3 Cleared for Directly Supervised Training: Directly supervised training is indicated for those individuals who may have had a recent illness or injury, those who have substandard fitness levels, or those who show noncompliance with a continual fitness training program. Each session should be directed through an individualized training program specifying the mode, frequency, duration, and intensity of exercise or through a controlled group exercise program. Although training sessions would be directed, individual observation by fitness personnel may not be necessary.

4.2.3.4 Cleared for Monitored Training: If it is warranted, qualified personnel should provide individually monitored training (i.e. blood pressure monitoring) for some participants. The frequency of monitoring should be specified by the responsible evaluating physician. For instance, an individual who exhibits a recent blood pressure concern should be monitored during three sessions per week for a period of time in order to confirm a pattern of blood pressure behavior. An individual who has hypertension which is adequately controlled by medication should be prophylactically checked once each month to see that the medication continues to provide the intended protection at rest and during exercise.

4.2.4 Clearance for the Physical Performance Standard Attempt: This is a certification of readiness which is issued within thirty days preceding an attempt of the physical performance qualification test. This certification should be based upon the results of the annual physical examination and should be submitted to the fitness coordinator. The physical performance qualification test should be conducted within thirty days of the issuance of this certification. If this certification is not issued at the same time as the annual physical examination, an additional medical examination should be made to certify approval for physical fitness training or testing.

4.2.4.1 The additional medical examination should be conducted based upon a review of medical records, a review of statements reflecting the training and the appropriateness of testing by both the individual being tested and by the fitness coordinator, and the results of any special evaluations that are determined to be necessary by the responsible evaluating physician. The following guidance is provided for the medical evaluation, and an example of the resultant certification is presented as Appendix C:

- The medical record should be reviewed for any previous physical examination finding and any subsequent illness, injury, or examination data.
- The fitness coordinator should provide a report to the responsible examining physician stating whether or not the individual has participated in an approved physical fitness training program.
- The security force person should identify any medical concerns or limitations and any use of prescribed or over-the-counter medications.

4.2.4.2 Based upon the information that has developed, the responsible examining physician may insist upon other tests or examinations in order to verify health status for certification.

4.2.4.3 *Security force personnel shall be given a medical examination including a determination and written certification by a licensed physician that there are no medical contraindications as disclosed by the medical examination to participation by the individual in physical fitness tests.* (Excerpted from 10 CFR 73, Appendix B:I.C.)

4.3 Waiver of Medical Recommendations and Time Extension to Meet Physical Performance Standards

4.3.1 Waivers of elements in the medical recommendations of this NUREG may be granted for certain otherwise disqualifying medical or physical deficiencies by the licensee provided that:

- The licensee, in consultation with a responsible evaluating physician, determines that a certain medical or physical defect may be considered for waiver without compromising the intent of these medical guidelines, the intent being to assure that all security force personnel are capable of safely and effectively performing all normal and emergency duties.
- The individual demonstrates, by medical examination and/or by practical test as determined necessary by a responsible evaluating physician in consultation with the licensee fitness coordinator, the ability to perform effectively and safely all routine and emergency duties.
- A statement of demonstrated ability is prepared by a responsible evaluating physician which clearly (1) identifies the individual, (2) states the nature and the degree of the specific medical or physical defect, and (3) records the satisfactory medical evaluation and/or performance of the practical test that was required by the responsible evaluating physician.

4.3.2 Waivers should be reviewed, revalidated, and reissued at intervals not to exceed one year.

5 PHYSICAL EXAMINATION

5.1 General

5.1.1 *Security force personnel shall successfully pass a physical examination administered by a licensed physician. The examination shall be designed to measure the individual's physical ability to perform assigned security job duties as identified in the licensee physical security and contingency plans.* (Excerpted from 10 CFR 73, Appendix B:I.B.1.b.) The physical examination should give special emphasis to the examination of organ systems which must be functionally intact in an individual who must respond both quickly, with the potential of using deadly force, and in adverse conditions which may require endurance. In particular, the following organ systems should be examined:

5.1.1.1 Head/Ears/Eyes/Nose/Throat (HEENT) -- The configuration should allow for the effective use of personal protection equipment such as a respirator. Individuals should have the olfactory abilities

capable of detecting products of combustion and marker gases. They should have abilities for effective communication and should meet hearing requirements. Also, examine for vision limitations.

5.1.1.2 Cardiorespiratory -- Individuals should possess the capacity and reserve needed to safely perform physical exertion for any emergency response, taking into consideration site-specific needs.

5.1.1.3 Musculoskeletal -- Individuals should be free of any long-term or permanent defect(s) or debilitation(s) which might compromise the physical protection of facilities, special nuclear material, research material, and personnel.

5.1.1.4 Endocrinologic/Nutritional/Metabolic -- Individuals should be able to accommodate to changing work and meal schedules without potential or actual incapacity.

6 MEDICAL QUALIFICATIONS FOR SECURITY FORCE PERSONNEL

6.1 General Qualifications: The security force person should possess mental, sensorial, and motor skills as required to perform safely and effectively all assigned job duties. Such qualifications include:

- Mental alertness and reliable judgment
- Acuity of senses and an ability of expression sufficient to allow accurate communication by written, spoken, audible, visible, or other signals
- Motor power, range of motion, neuromuscular coordination, and dexterity

6.2 Specific Minimum Qualifications

6.2.1 Head, Face, Neck, Scalp: The configuration should be suitable for the fitting and the effective use of personal protective equipment when the use of such equipment is required by assigned normal or emergency job duties.

6.2.2 Nose: Individuals should have the ability to detect the odor of combustion products and of tracer and marker gases.

6.2.3 Mouth and Throat: Individuals should have the capacity for clear and audible speech as required for effective communication on the job.

6.2.4 Ears: *Individuals shall have no hearing loss in the better ear greater than 30 decibels average at 500 Hz, 1000 Hz, and 2000 Hz, with no level greater than 40 decibels at any one frequency (by ISO 389 "Standard Reference Zero for the Calibration of Purtone Audiometer" (1975) or ANSI S3.6-1969 (R. 1973) "Specifications for Audiometers"). A hearing aid is acceptable provided suitable testing procedures demonstrate auditory acuity equivalent to the above stated requirement.* (Excerpted from 10 CFR 73, Appendix B:I.B.1.b.(2)(a) and (b))

6.2.5 Eyes

6.2.5.1 Distant Visual Acuity

6.2.5.1.1 *For each individual, distant visual acuity in each eye shall be correctable to 20/30 (Snellen or equivalent) in the better eye and to 20/40 in the other eye with the use of eyeglasses or contact lenses. (Excerpted from 10 CFR 73, Appendix B:I.B.b.(1)(a))*

6.2.5.1.2 *If uncorrected distant vision is not at least 20/40 in the better eye, the individual shall carry an extra pair of corrective lenses. (Excerpted from 10 CFR 73, Appendix B:I.B.1.b.(1)(a))*

6.2.5.2 **Near Visual Acuity:** *Near visual acuity, corrected or uncorrected, shall be at least 20/40 in the better eye. (Excerpted from 10 CFR 73, Appendix B:I.B.1.b.(1)(a))*

6.2.5.3 **Color Vision:** *The ability to distinguish red, green, and yellow colors is required. Special color vision testing and certification should be required where fine color discrimination is critical to the safe or effective performance of assigned job tasks. On the job evaluation shall be used for individuals who exhibit a mild color vision defect. (Excerpted from 10 CFR 73, Appendix B:I.B.1.b.(1)(a))*

6.2.5.4 **Peripheral Vision:** *The individual's field of vision must be at least 70° horizontal meridian in each eye. (Excerpted from 10 CFR 73, Appendix B:I.B.1.b.(1)(a))*

6.2.5.5 **Depth Perception:** Adequate depth perception should be measured by stereopsis or be demonstrated in a practical operational test

6.2.6 Cardiorespiratory

6.2.6.1 **Respiratory:** An individual should have the capacity and reserve necessary to perform physical exertion in emergencies at least equal to the demands of the job assignment as well as the ability to utilize respiratory protective filters and air supply masks when this emergency equipment is required by assigned job requirements.

6.2.6.2 **Cardiovascular:** The individual should possess the following: 1) normal configuration and function of the entire cardiovascular system, 2) the capacity for exertion during emergencies, 3) a normal resting pulse, 4) a regular pulse, and 5) full symmetrical pulses in the extremities and the neck. He/she should be normotensive with a tolerance for rapid postural changes. If an examination reveals significant cardiac arrhythmias, murmur, enlargement, hypertension, postural hypotension, or other evidence of cardiovascular abnormality, an evaluation by a specialist in internal medicine or cardiology may be indicated and should be reviewed by the certifying physician.

6.2.7 **Abdomen and Viscera:** There should be no clinically significant abnormalities.

6.2.8 **Musculoskeletal:** The individual should possess normal symmetrical structure, range of motion, and power.

6.2.9 Skin: An individual should have no significant abnormal intolerance to chemical, mechanical, or other physical agents. He/she should also have the capability of tolerating the use of personal protective coverings and decontamination procedures when required to by assigned job duties.

6.2.10 Endocrinologic/Nutritional/Metabolic: An individual's endocrinologic/nutritional/metabolic status should be adequate to meet the stresses and demands of assigned normal and emergency job duties. He/she should also have the ability to accommodate to changing work and meal schedules without potential or actual incapacity.

6.2.11 Hematopoietic: The individual should possess normal hematopoietic function.

6.2.12 Lymphatic: Normal lymphatic function should be evident.

6.2.13 Neurological: The individual should possess normal central and peripheral nervous system function.

6.2.14 Mental and Emotional

6.2.14.1 An individual should have normal mental status and an absence of psychologic or psychiatric conditions which would adversely affect the ability to handle firearms safely or to act safely and effectively under normal and emergency conditions.

6.2.14.2 *Individuals whose security tasks and job duties are directly associated with the effective implementation of the licensee physical security and contingency plans shall demonstrate mental alertness and the capability to exercise good judgement, implement instructions, assimilate assigned security tasks, and possess the acuity of senses and the ability of expression sufficient to permit accurate communication by written, spoken, audible, visible, or other signals as required by assigned job duties. (Excerpted from 10 CFR 73, Appendix B:I.B.2.a)*

6.2.15 Addiction: *Individuals shall have no established medical history or medical diagnosis of habitual alcoholism or drug addiction, or, where such a condition has existed, the individual shall provide certified documentation of having completed a rehabilitation program which would give a reasonable degree of confidence that the individual would be capable of performing assigned security job duties. (Excerpted from 10 CFR 73, Appendix B:I.B.1.b.(4))*

6.2.16 Laboratory

6.2.16.1 Hemogram: Individuals should be free of clinically significant abnormalities of the formed elements of the blood that could reasonably be expected to affect the safe and effective performance of assigned duties.

6.2.16.2 Urinalysis: There should be an absence of proteinuria and glycosuria unless the absence of a disqualifying systemic or genitourinary condition and the absence of significant microscopic abnormality has been demonstrated.

6.2.16.3 Other Studies: Normal results should be found for any other medical investigative procedure, including an electrocardiogram or a chest x-ray, which a licensed physician considers to be necessary for adequate medical evaluation.

7 MEDICAL DISQUALIFICATIONS FOR SECURITY FORCE PERSONNEL

7.1 General: The responsible examining physician should determine the absolute medical disqualifiers which should keep an individual from assignment to an armed position.

7.2 Freedom from Incapacity: The security force person should be free of any condition, habit, or practice which could reasonably be expected to result in sudden, subtle, or unexpected incapacitation.

7.3 Conditions for Medical Disqualification: The presence of any of the following conditions should disqualify a security force person from assignment to an armed position:

7.3.1 Respiratory: Individuals should not exhibit significant pulmonary pathology or a decrease in pulmonary function which could interfere with the safe and effective performance of assigned job duties.

7.3.2 Cardiovascular: An individual should be disqualified if he/she currently has or has had any of the following disorders or conditions:

- Ischemic heart disease/Angina pectoris
- Myocardial infarction
- Heart failure
- Significant arrhythmias
- Arterial aneurysm
- Significant peripheral vascular insufficiency
- Heart surgery which has left partial physical debilitation(s) or the risk of recurrent health concerns
- Corrective arterial or great vessel surgery
- Prosthetic valve
- Artificial pacemaker
- Uncontrolled hypertension at rest or during exercise

7.3.3 Endocrinologic/Nutritional/Metabolic

7.3.3.1 *Individuals shall have no established medical history or medical diagnosis of epilepsy or diabetes, or, where such a condition exists, the individual shall provide medical evidence that the condition can be controlled with proper medication so that the individual will not lapse into a coma or an unconscious state while performing assigned security job duties. (Excerpted from 10 CFR 73, Appendix B:I.B.1.b.(3))*

7.3.3.2 An individual should not have any endocrinologic, nutritional, or metabolic condition that would prevent him/her from adequately meeting the stresses and demands of assigned normal or emergency job duties.

7.3.3.3 The inability to accommodate to changing work schedules or to a delay in meals without potential or actual incapacity should be a disqualifier.

7.3.3.4 An individual should be disqualified if he/she is not able to tolerate the prolonged use of protective garments such as respirator masks, air masks, or bullet-resistant garments.

7.3.3.5 Individuals should be disqualified if they either have diabetes mellitus requiring the use of insulin or have had uncontrolled diabetes, ketoacidosis, or diabetic coma within the previous two years.

7.3.3.6 Individuals may be disqualified as a result of obesity of such a degree that it would interfere with the safe and effective performance of normal and emergency job duties. Body fat greater than 26% in males and greater than 36% in females, when found in combination with other cardiovascular risk factors, orthopedic problems, or endocrinologic concerns, compromises the safe participation in a continuous exercise program and may be considered as a medical disqualifier.

7.3.4 Skin: An individual should not have recurrent severe dermatitis or hypersensitivity to irritants or sensitizers sufficient enough to interfere with the wearing of required personal protective equipment or likely to be aggravated by or interfere with established or required decontamination procedures.

7.3.5 Hematopoietic Dysfunction: Individuals should have no clinically significant hematopoietic disorders which may interfere with the safe and effective performance of assigned job duties.

7.3.6 Malignant Neoplasms: Malignant neoplastic disease should be a medical disqualifier.

7.3.7 Neurological: An individual may be disqualified on the basis of any of the following neurological conditions:

- A history of epilepsy or other convulsive disorder
- A history of any disturbance of consciousness or neurological disease or any other presently existing condition that may interfere with the safe and effective performance of assigned job duties

7.3.8 Eyes

7.3.8.1 An individual should not have total blindness in one or both eyes.

7.3.8.2 ***Glaucoma shall be disqualifying unless controlled by acceptable medical or surgical means, provided such medications as may be used for controlling glaucoma do not cause undesirable side effects which adversely affect the individual's ability to perform assigned security job duties and provided the visual acuity and field of vision requirements are met.*** (Excerpted from 10 CFR 73, Appendix B.I.B 1.b (1)(a))

7.3.9 Mental and Emotional

7.3.9.1 ***Armed individuals shall have no emotional instability that would interfere with the effective performance of assigned security job duties. The determination shall be made by a licensed psychologist, psychiatrist, physician, or other person***

professionally trained to identify emotional instability. (Excerpted from 10 CFR 73, Appendix B:I.B.2.b.)

7.3.9.2 An established history or clinical diagnosis of any of the following mental or emotional conditions should be a medical disqualifier:

- An individual should not have any psychological or mental condition which could cause impaired alertness, judgment, or motor ability. A history of clinically significant emotional or behavioral problems should require thorough clinical evaluation which may include, but not necessarily be limited to, psychological testing and psychiatric evaluation.
- An individual should not have attempted suicide or have expressed a threat of suicide.

7.3.10 Chemical Dependency

7.3.10.1 A condition in which an individual's intake of alcohol is sufficient to damage his/her physical health, job performance, or personal functioning can be cause for disqualification. The same is true when alcohol has become a prerequisite to his/her daily functioning.

7.3.10.2 An individual should not be addicted to or be dependent upon drugs as evidenced by habitual use or by a clear sense of need for the drug.

7.3.11 Medication: The use of prescribed or otherwise legally obtainable medication taken in such a dosage that a temporary delay in taking such medication might result in unacceptable incapacity should be a medical disqualifier. Examples of such medications are certain dosages of or requirements for cortico-steroids, antihypertensives, oral hypoglycemics, anticoagulants, antiarrhythmics, sedatives, and tranquilizers.

7.3.12 Orthopedic: Individuals may be disqualified for any bone, joint, or muscular condition which limits range of motion or otherwise interferes with the safe and effective performance of assigned duties or might result in sudden or unexpected incapacitation.

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APPENDIX A
CERTIFICATION OF PHYSICAL FITNESS FOR DUTY

I, (name of physician) _____, certify that (name of individual) _____ is medically qualified for the position of (guard, TRT, or other armed response person) _____ and meets the medical standards contained within 10 CFR 73 as well as within the NRC-approved Physical Protection Plan. This certification is valid for up to one year from the date of my signature. It must, however, be renewed within one year if there is a significant change in health status.

Signature _____ Date _____

Limitations to duty:

APPENDIX B

SUPERVISION CONCERNS FOR THE PHYSICAL FITNESS PROGRAM

Name of Individual _____

The following parameters for training are to be updated after each periodic physical fitness assessment, annual physical, or significant change in health status.

TRAINING CLEARANCE

- ☐ Cleared for minimally supervised training
- ☐ Cleared for directly supervised training
- ☐ Cleared for monitored training

MONITORING OR DIRECT SUPERVISION

- ☐ Blood pressure
- ☐ Orthopedic
- ☐ Fitness Progress
- ☐ Other _____

FREQUENCY OF MONITORING OR DIRECT SUPERVISION

- ☐ Three times per week
- ☐ One time per week
- ☐ One time every two weeks
- ☐ One time per month

Name of Physician _____

and

Signature _____ Date _____

Comments:

APPENDIX C
CLEARANCE FOR THE PHYSICAL PERFORMANCE
STANDARD ATTEMPT
10 CFR 73

Name of Individual _____

I certify that I have not had any health concerns and/or changes in medications which have occurred since my last NRC-directed physical exam except for those noted below. These changes do not pose a concern to me in attempting the standard safely. I also certify that I have been exercising consistently as defined in the NRC-approved Physical Protection Plan.

Concerns/Medications _____

Signature of Individual _____ Date _____

I certify that this individual's training records have been reviewed and that this individual has trained sufficiently for the past four weeks and demonstrates no apparent fitness-related concerns to prevent him/her from attempting the standard.

Signature of
Fitness Coordinator _____ Date _____

I certify that the individual's health records have been reviewed to determine if any contraindications for attempting the standard exist. I certify that the current health and fitness status of this individual appears sufficient to attempt the standard. This certification is good for up to thirty days as long as there is no negative change in the individual's health status and if at least two training sessions per week are maintained during this period.

Name of
Authorized Physician _____

and

Signature _____ Date _____

APPENDIX D
PICTORIAL OVERVIEW OF RECOMMENDATIONS

NRC FORM 335 (2-89) NRCM 1102, 3201, 3202	U.S. NUCLEAR REGULATORY COMMISSION BIBLIOGRAPHIC DATA SHEET <i>(See instructions on the reverse)</i>	1. REPORT NUMBER <i>(Assigned by NRC. Add Vol., Supp., Rev., and Addendum Numbers, if any.)</i> NUREG/CR-5689									
2. TITLE AND SUBTITLE Medical Screening Reference Manual For Security Force Personnel At Fuel Cycle Facilities Possessing Formula Quantities Of Special Nuclear Materials		3. DATE REPORT PUBLISHED <table style="width: 100%; border: none;"> <tr> <td style="text-align: center; border: none;">MONTH</td> <td style="text-align: center; border: none;">YEAR</td> </tr> <tr> <td style="text-align: center; border: none;">September</td> <td style="text-align: center; border: none;">1991</td> </tr> </table>	MONTH	YEAR	September	1991					
MONTH	YEAR										
September	1991										
5. AUTHOR(S) P.A. Arzino and C.H. Brown		4. FIN OR GRANT NUMBER L1239									
6. TYPE OF REPORT Technical		7. PERIOD COVERED (Inclusive Dates) n/a									
8. PERFORMING ORGANIZATION - NAME AND ADDRESS <i>(If NRC, provide Division, Office or Region, U.S. Nuclear Regulatory Commission, and mailing address; if contractor, provide name and mailing address.)</i> Foundation, Inc. California State University Hayward, CA 94542											
9. SPONSORING ORGANIZATION - NAME AND ADDRESS <i>(If NRC, type "Same as above"; if contractor, provide NRC Division, Office or Region, U.S. Nuclear Regulatory Commission, and mailing address.)</i> Division of Safeguards and Transportation Office of Nuclear Material Safety and Safeguards U.S. Nuclear Regulatory Commission Washington D.C. 20555											
10. SUPPLEMENTARY NOTES											
11. ABSTRACT (200 words or less) <p>The recommendations contained throughout this NUREG were provided to the Nuclear Regulatory Commission (NRC) as medical screening information that could be used by physicians who are evaluating the parameters for the safe participation of guards, Tactical Response Team members (TRTs), and all other armed response personnel in physical fitness training and in physical performance standards testing. The information provided in this NUREG will help licensees determine if guards, TRTs, and other armed response personnel can effectively perform their normal and emergency duties without undue hazard to themselves, to fellow employees, to the plant site, and to the general public. The medical recommendations in this NUREG are similar in content to the medical standards contained in 10 CFR Part 1046 which, in part, specifies medical standards for the protective force personnel regulated by the Department of Energy. The guidelines contained in this NUREG are not requirements, and compliance is not required.</p>											
12. KEY WORDS/DESCRIPTORS <i>(List words or phrases that will assist researchers in locating the report.)</i> Physical Fitness Security Personnel Physical Exam Medical		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">13. AVAILABILITY STATEMENT</td> </tr> <tr> <td style="text-align: center; padding: 2px;">Unlimited</td> </tr> <tr> <td style="padding: 2px;">14. SECURITY CLASSIFICATION</td> </tr> <tr> <td style="padding: 2px;"><i>(This Page)</i></td> </tr> <tr> <td style="text-align: center; padding: 2px;">Unclassified</td> </tr> <tr> <td style="padding: 2px;"><i>(This Report)</i></td> </tr> <tr> <td style="text-align: center; padding: 2px;">Unclassified</td> </tr> <tr> <td style="padding: 2px;">15. NUMBER OF PAGES</td> </tr> <tr> <td style="padding: 2px;">16. PRICE</td> </tr> </table>	13. AVAILABILITY STATEMENT	Unlimited	14. SECURITY CLASSIFICATION	<i>(This Page)</i>	Unclassified	<i>(This Report)</i>	Unclassified	15. NUMBER OF PAGES	16. PRICE
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