

PRNC-5S (Health Physics) Copy So. ae FIRE PLAN MAYAGUEZ Puerto Rico Nuclear Center Operated By University of Puerto Rico For U.S. Atomic Energy Commission Mayaguez, P.R. ---Page Break--- FIRE PLAN (MAYAGUEZ) Prepared By Juan José Soltero Puerto Rico Nuclear Center Operated By University of Puerto Rico for U.S. Atomic Energy Commission Mayaguez, P.R. ---Page Break--- TABLE OF CONTENTS Authorization General Information I. Fire Brigade a. Fire Officer b. Assistant Fire Officer c. Group Leader d. Assistant Group Leader II. Brigade Group Functions and Duties 1. Communication Group 2. First Aid and Health Physics Group 3. Maintenance Group 4. 1st Fire Group 5. 2nd Fire Group 6. Standby Group III. Fire Anywhere in PRNC Except in Reactor Building A. During Working Hours 1. First Person to See the Fire 2. Personnel who have been working at the place of the fire. 3. All Personnel not members of the fire brigade 4. Fire Brigade a. Fire Officer b. Assistant Fire Officer c. Communication Group d. First Aid and Health Physics Group e. Maintenance Group Page ---Page Break--- Page 5. 1st Fire Group 6. 2nd Fire Group 7. Standby Group 8. Reactor Supervisor B. During Non-Working Hours 1. First Person to See the Fire 2. Person who is on call IV. Fire Anywhere in Reactor Building A. During Working Hours 1. First Person to See the Fire 2. Reactor Operator 3. Reactor Supervisor 4. Reactor Division Head 5. Health Physics Department 6. Medical Officer 7. Fire Brigade 8. Persons not having specific duties B. During Non-Working Hours 1. First Person to See the Fire 2. Persons having red label on their film badge 3. After fire is under control V. Fire in the Annex Building A. During Working Hours 1. First Person to See the Fire 2. Personnel who are working at the place of the fire 3. All other personnel who do not belong to the Fire Brigade 4. Fire Brigade a. Fire Officer b. Assistant Fire Officer c. Communication Group d. First Aid and Health Physics Group e.

Maintenance Group £. 1st. Fire Group 8. 2nd. Fire Group 1h. Standby Group 5. Reactor Supervisor B. During Non-Working Hours 1, First Person to See the Fire Rules That Must Be Observed at All Times in the PRNC area Detail Sketches of TRNC. Buildings and Legend: Page 1 20 20 20 20 20 2 a 2 2 n 2 23 2s ---Page Break--- PUERTO RICO NUCLEAR CENTER Operated by UNIVERSITY OF PUERTO RICO for U.S. ATOMIC ENERGY COMMISSION 'AUTHORIZATION This Fire Plan for the Mayaguez Area has been revised and approved by the Safety Committee. It is hereby approved and made operative as of January 7, 1963. Gna rector ---Page Break--- GENERAL INFORMATION The following fire plan has been prepared to protect personnel and property within the area of the Puerto Rico Nuclear Center, located on State Road #108, KI 1.7 (Mtradero Ra.) Fire protection equipment consists of 19 small CO2 extinguishers, which range from 5 lbs. to 8 lbs.; eight 25 lb. CO2 fire extinguishers; eight 20 lb. CO2 fire extinguishers; 2 water fire extinguishers and 2 foam fire extinguishers. The facility also has a fire water circuit well distributed throughout the building. Within the water circuit there is a 100,000 gal. water reservoir, a fire water pump, two fire hydrants, eight fire hose stations and four 1 1/2 inch fire hose connections: ---Page Break--- 1. FIRE PROGRAM The fire brigade will consist of a fire officer, assistant fire officer, and six groups appointed by the Associate Director. Each group will have a group leader and an assistant group leader A. Fire Officer Duties: 1. Issue written fire protection procedures. 2. Assign personnel to specific fire duties 3. Establish locations of fire extinguishers. 4. Inspect and maintain fire fighting equipment. 5. Provide space for, and supervise, storage of flammable material 6. Supervise construction of partitions, tables, shelves, etc., made of flammable materials 7. To make provisions for training personnel. 8. To report directly to the Health Physics Division Head on fire safety matters. B. Assistant Fire Officer

duetes: 1. To aid the fire officer. 2. WALI take full responsibilities of the fire brigade when the fire officer is absent. 3. To check that the fire department has been called during an emergency. © Group Leader put 1. WALI instruct his group members of their duties in case of a fire emergency.

---Page Break--- 4. WALL have ready, at all times, the necessary equipment to carry out his duty. 3. WILL make periodic inspections of equipment. 4. WILL inform the fire officer of any equipment which is needed. 5. After an emergency, he will submit a written report to the fire officer of the duties performed by his group. 6. During the absence of anyone from the group, the Leader, or assistant group leader, will delegate someone (who does not belong to the fire brigade) to take full responsibilities of the duties of the missing person. NOTE: Make sure that the person knows, and understands, the responsibilities of the missing person. Also, when making the calls to the local fire department, make sure you are understood. Speak clearly at all times. - Assistant Group Lead duties: 1. WALL assist the group leader in his work. 2. WILL take full responsibilities of the group when the group leader is absent. B. Brigade Groups Functions and Duties 1. Communication Group (3 persons) 4. In case of fire, or an emergency when the fire alarm sounds, they will call the local fire department and the college guards. ---Page Break--- a. The telephone operator will remain at her place, ready to receive orders from the communication group leader. 2. First Aid and Health Physics Group (8 persons) 4) To attend and give first aid to all personnel injured directly or indirectly from a fire. b. To inspect the fire area to make sure that no radiation or contamination occurs directly or indirectly from the fire. © To supply the necessary equipment for radioactive protection to the fire groups, in case it is needed. 4. To instruct the fire groups on possible radiation hazards which may occur during a fire. 5. To instruct fire groups in the use of the first.

até aqui mont which we have for our protection. £, To provide transportation to injured personnel from the PRNC to the hospital (MORE: At least one of the A.2.¢. vehicles, preferably the station wagon, will always be on standby for such an emergency.) Maintenance Group (2 persons) 4 To shut off main air supply fan b, To shut off basement supply fan. € To disconnect all receptacle panels 4, To close main oxygen valve. @, To close main propane valve. ---Page Break--- +. f. To close main low pressure air valve & Open fire pump room door and steel roof. 1b. Unlock chain gate. 4. Make sure that all wrenches for fire hydrants are at their respective places. J: To make sure that no vehicle is obstructing the road going towards the rear of the building. Ase. Fire Group (4 persons) To report to the place of the fire immediately after the fire alarm goes on. b. To carry out the orders of the person in charge at the site of the fire. © To unroll the nearest fire hose, and to bring the nearest fire extinguishers to the place of the fire (NOTE: DO NOT open water valve at the fire hose unless ordered.) 2nd. Fire Group (2 persons) 4, To direct all personnel, coming out of the rear exit door, toward the parking lot, in case of a fire emergency. b. To prevent anyone from entering the building through the rear exit, during a fire emergency. © When the fire alarm sounds, to close both the wooden double door and the steel double door at the rear of the laboratory building. ---Page Break--- 6, Standby Group (4 persons) 4, At the sound of the fire alarm report to lobby and stay there B. To substitute anyone in the other groups if called for: © The group leader will take the place of the receptionist and will stand by for any calls through the intercom or transceiver. 4. One man of this group will accompany the firemen to the place of the fire ©. Check that the fire department has been notified by calling the fire department. ---Page Break--- 11. FIRE ANYWHERE 10 PENG EXCEPT IN REACTOR BUILDING 4A. During Working Hours 1, First Person to See

the Fire: 4. Tull nearest fire alarm box, Stay near the fire alarm box, until the fire brigade arrives. © Direct the fire brigade to the place of the fire. 4, Explain to the Leader of the fire group anything you know with respect to that particular fire 2. Personnel who have been working at the place of the fire (except the person giving the alarm) 4. Disconnect all electrical apparatus and evacuate the building through the nearest exit. b. Inform the fire officer or person in charge of the operation concerning any flammable material which may endanger the personnel in the fire brigade. 3. All

Personnel not members of the Fire Brigade. QUOTE: When you are moving through the halls, do so in an orderly way. Do not run, stay always at your right side. Remember, the fire brigade will be going toward the fire area.) 4. Fire Brigade Fire officer 1. Report to lobby, and from the annunciator, find out the Location of the fire alarm which is on unless he knows the location. ---Page Break--- 2 Then report to the area of the fire alarm and direct in extinguishing the fire b. Assistant Fire officer: 1. Report to the Lobby, and from the annunciator, find out the location of the fire. 2. Report to Fire Officer and aid him in the operation of putting out the fire. ©, Communication Group 1. Group leader 4% Will immediately call, by his telephone, the local Fire Department. b. Will report to the Lobby and make sure the telephone operator has also called the local Fire Department and the college guard. ©. He will stay by the telephone operator, to make the necessary calls for ambulance, police dept., etc., if ordered too. 2: Telephone operator 4, Will call the local Fire Department. b. Will call the college guard WILL stay standby for any other call 3 Assistant Group Leader 4, He will aid the Group Leader in his duties. b, WILL report to the Lobby to receive orders from Group Leader. ---Page Break--- 4 slo First Aid and Health Physics Group 1. Group te: 4, We will report to the Lobby and from the 'annunciator he will find out

the emergency. With the help of his group, he will proceed with the necessary equipment to the emergency. Persons in First Aid and Health Physics Group 5, WAIL report to the Lobby to find out the location of the emergency area. Will report to the Group Leader at the emergency area. Maintenance Group 1. Group Leader and one member report to the Lobby to find out the emergency area. Shut off main air supply fan. Close main oxygen valve. Close main propane valve. Close main low pressure air valve. Disconnect all receptacle panels pertaining to the emergency area. Assistant Group Leader: Open door of the fire pump room and steel roof. Unlock chain gate. Make sure that all wrenches for fire hydrants are at their respective places. Make sure no vehicle is obstructing the road toward the rear of the building, or near the fire hydrants. 1st Fire Group 1. Group Leader and his Group, report to the Lobby and find out from the annunciator the emergency area. Report to the nearest fire hose station in the emergency area. Carry out your duties as directed by the Fire Officer in charge of the operation. 2nd Fire Group 1. Group Leader and his Group, report to the Lobby and from the annunciator find out the emergency area. Carry out your duties. Stand-by Group 1. Group Leader: Report to the Lobby and take the place of the receptionist. Stand by for any calls through the intercom or transceiver. Check with the operator to make sure the local Fire Department was called. Any one from the Stand-by Group will wait for firemen at the main gate and will guide them to the emergency area. Reactor Supervisor: He will be notified of the fire and its location. We will act according to this criteria. During Non-Working Hours: First Person to See the Fire: Pull fire alarm nearest the fire. If the fire is small, and you are positively sure that you can put the fire out, return to the fire, and aim with the extinguisher nozzle to the base of the fire.

Fire, extinguish the fire. © TE there is a doubt that you can control the fire. Return to the lobby and call through the transceiver the following words: "K 11 - 0340 Unit 11 Nuclear Center calling all stations, there is a fire in the North Hole" (repeat three times). Repeat the same numbers in Spanish, "Hay un fuego en el roto Norte." (Repeat 3 times). Then you will call the Fire Department using the telephone in the lobby. The telephone number of the Fire Department is listed above the dial on ---Page Break---. You will speak clearly, saying, "There is a fire in the Nuclear Center, at Miradero Road, Kilometer 1.7" (Repeat if necessary). In Spanish, "Hay un fuego en el Centro Nuclear, por la Carretera de Miradero, kilómetro 1.7" (Repeat if necessary). You will then walk as fast as you can to the main gate, open it all the way, and return to the lobby. You will wait for the firemen to arrive and supply them with dosimeters. Then you will guide the firemen to the

emergency area. Note: Be sure that no water is used in places marked "Use No Water." Person who is on call at the sound of the emergency call, you will go directly to the Nuclear Center, and from the annunciator you will find the location of the emergency. Go directly to the event and, 1. shut off Main Air supply fan. 2. Shut off Main oxygen Valve. 3. Shut off Main Propane Valve. 4. Shut off Main Low Air Pressure Valve. ---Page Break--- Go directly to the emergency area and direct in the operation of extinguishing the fire. After the fire is under control, or as soon as possible, call the following persons by telephone, and notify them of the fire and the action taken: 1. Deputy Director 2. Associate Director 3. Head of the Operations Division 4. Reactor Supervisor 5. Health Physics Division Head 6. Fire Officer 7. Assistant Fire Officer 8. College Guard ---Page Break--- FIRE ANYWHERE IN REACTOR BUILDING There are two fire hose stations in the reactor building, located so that all interior floor areas will be within reach of 75.

foot hose length. In addition, there are 6 CO₂, portable fire extinguishers which are located as follows: 18 lbs. CO₂ -- Console Room 1-8 lbs. CO₂ -- Rear Console Room 1-8 lbs. CO₂ -- 1st Floor Reactor Area 2 = 20 lbs. CO₂ -- Ground Floor Reactor Area 1 = 8 lbs. CO₂ -- Overhead crane stairway A. During Working Hours 1. First person to see the fire: a. Pull nearest fire alarm box in the building, then call the Fire Department. b. Notify reactor operator. c. Take emergency measures to put out fire. (NOTE: Be sure not to use water in areas where signs warn not to use water in case of fire.) 2. Reactor Operator a. Shut down reactor. b. Announce over P.A. System, "Emergency fire in (give location)." - ALL personnel secure equipment and prepare to vacate building if necessary. 4. Phone Fire Department to confirm request for help. ---Page Break--- ~16- a. Notify Reactor Supervisor and Reactor Division Head. b. If instructed by Reactor Supervisor, announce, over P.A. System, "ALL persons vacate building." Accompany firemen in re-entry of building. Reactor Supervisor a. Check that Fire Department has been called. b. Proceed to fire scene and direct emergency fire extinguishing until firemen arrive. c. Order evacuation of personnel if necessary. d. Secure ventilation equipment if necessary. e. Shut off all electrical power to reactor building, if necessary. f. Vacate the building. g. Request Health Physics assistance if radiation hazard exists and medical officer, if needed. h. Accompany firemen in re-entry to building. i. Take any other measures that circumstance warrants. j. Reactor Division Head a. Report to fire scene and check that Fire Department has been called, and lend assistance required. 5. Health Physics Department a. Report to Reactor Supervisor if requested. Lend assistance required. ---Page Break--- 6. Medical officer a. Report to Reactor Supervisor if requested. b. Lend assistance as required. 7. Fire Brigade Stay on standby at the lobby. TWOREANE: In case of emergency fire in the Reactor Building, the Reactor Supervisor will act as fire.

officer. = Persons not having specific duties will evacuate the Reactor building through the nearest exit. B. During Non-Working Hours First Person to See the Fire a. Pull fire alarm near the fire. If the Reactor Building is closed, pull the fire alarm located in the Lobby. Call the local Fire Department, using the telephone in the Lobby. Speak clearly, and say the following: "There is a fire in the Nuclear Center at Miradero Road, Kilometer 1.7." (Repeat if necessary.) In Spanish, "Hay fuego en el Centro Nuclear situado en el kilómetro 1.7 en la Carretera de Miradero." (Repeat if necessary.) Then call through the Transceiver the following: "KL - 246 Unit 11 Nuclear Center calling all stations, there is a fire in the North role." (Repeat 3 times.) ---Page Break--- -18- In Spanish, "K 11 - 0340 Unit 11 Llamando a todas las estaciones del Centro Nuclear. Hay fuego en el role Norte." (Repeat 3 times.) 4. Then go to the main gate, open it all the way, and return to the Lobby to prepare dosimeters for the firemen and to wait for them. If during that time you have a chance to repeat the call by the Transceiver, or by phone, do so. Only persons having RED Label 110 badges can go into the Reactor Building. If you are one of them, you may direct the firemen into the

Reactor Building. If not, wait for someone to arrive. Reactor Supervisor, Assistant Reactor Supervisor, Health Physicist, or a person having a RED Label on his film badge, will direct firemen into the Reactor Building to extinguish the fire. After the fire is under control, the following will be notified: a. Reactor Division Head b. Reactor Supervisor c. Assistant Reactor Supervisor d. Health Physics Division Head e. Associate Director f. Deputy Director ---Page Break---

IV. FIRE IN THE ANNEX BUILDING As During Working Hours.

A. First Person to See the Fire a. Pull fire alarm in the Annex Building. b. Go directly to the fire alarm located in the Ground Floor Laboratory Building, next to Stairway 0.2, sound the fire alarm, and stay there until the fire

brigade arrives, then direct them to the emergency area. Personnel who are working at the place of fire evacuate the building immediately by the nearest door marked "Exit". Get away from the building as soon as you can. Report to the parking place in front of the Laboratory Building. Do not enter the Laboratory Building unless you are a member of the Fire Brigade. All other personnel who do not belong to the Fire Brigade, upon hearing the sound of the fire alarm, turn off any equipment that you are using. Evacuate the building by the nearest door, marked "EXIT", and report to the parking place. You will be notified there when you can enter the Reactor or Laboratory Buildings to continue your work. When you enter the building to continue your work, you will NOT USE THE TELEPHONE NOR INTERCOM for any purpose whatsoever, unless it is another fire emergency or a serious accident. ---Page Break---

- 1) Same as Part I, A, 4.,a) - Assistant Fire Officer
- 1) Same as Part I, A, 4.,b).
- 1) Same as Part II, A, 5a. First Aid and Health Physics Group
- 1) Same as Part II, A, 4, a. Maintenance Group 1: Group Leader and one member
- 4) Report to Lobby to find out the emergency
- 5) Open door of Fire Pump House and steel roof.
- 6) Unlock chain gate. Make sure that all wrenches for fire hydrants are at their respective places. Make sure that no vehicle is obstructing the road toward the rear of the building, or near the fire hydrants. Check each other to make sure everything is done.
- 8) If a vehicle is in the way,
 - 1) If the vehicle is open and can be moved, do so, then report license and model to Group Leader of the Stand-by Group. ---Page Break---
 - 2) If the vehicle is closed and cannot be moved, report license and model to Group Leader of the Stand-by Group.
 - 3) Fire Group 1, Group Leader and his group report to Lobby and from there find out the emergency. Report to the fire hose station nearest the emergency area. In this case, two or three hoses must be connected together in order to reach close to the emergency area. Hoses may be taken.

from other fire hose stations. Group Leader will send one man to the emergency area with the fire extinguisher, which is located in the lobby.

2nd. Fire Group 1, Group Leader and His Group Report to Lobby and find out the location of the fire area. Report to the fire area, taking with him the fire extinguisher at the fire hose station near the fire. Report to the officer directing the operation, and help him extinguish the fire, ---Page Break---

» -22- Stand-by Group, Group Leader 1 Report to Lobby and take the place of the Receptionist. Stand-by for any calls through the Intercom or the Transceiver. Check with the operator, to make sure that the Fire Department has been notified. Send one of the members of the stand-by group to await the Firemen at the main gate so that he can direct them to the scene of the fire.

5. Reactor Supervisor 1. 2 + During Non-Work Hours he will be notified of the fire and its location. He will act according to his criteria.

1. First Person to See the Fire 'The procedures are the same as Part II, B. The only difference is that the person to see the fire will also pull the alarm in the Lobby of the Laboratory Building, in addition to pulling the alarm of the Annex Building, ---Page Break---

-2- V, RULES THAT MUST BE OBSERVED AT ALL TIMES IN THE

No smoking will be allowed in the following areas.

- a. All Laboratories: All rooms or areas where equipment is being used to perform experimental research, analysis, or any other experimentation.
- b. Service house: Due to the materials kept in this area, and also due to the lack

of ventilation and excess of heat. c. Near or inside flammable storage areas. d. Near, or at the Gasoline depot, and fuel oil tank. e. Carpenter's inside storage area of materials which are flammable. f. ALL areas marked as "NO SMOKING" in drawings. No smoking will be allowed while handling explosives, gasoline, paint (even if the paint is low ignition point and no fumes), or any other flammable material. 3. ALL flammable, toxic, and explosive materials will be kept in the flammable.

storage room or shack. Only small quantities which are for immediate use will be kept in the laboratories. 4. When flammables are kept in the laboratories, they will be in special storage compartments which are provided with a special asbestos cover. 5. Chemicals which have a low ignition point under normal atmospheric pressure will be kept in explosion-proof refrigerators. 6. Rags, paper towels, or any other material representing a fire hazard will be stored in steel cabinets, otherwise they will be stored outside of the laboratory building. The construction of any table, writing, or apparatus made of flammable material will have to be approved by the Fire officer. 8. Every Friday a routine inspection will be held on the P.R.N.C. 9. Every month a formal fire inspection will be held. A report of this inspection will be sent to all Divisions and a copy to the Director. Any area which the Fire Officer considers a fire hazard will be marked as such, and "NO SMOKING" will be permitted in that area. 10. No parking will be allowed near or in front of the fire hydrant. 11. No parking will be allowed near or in front of the flammable storage areas. 12. No parking will be allowed on the road going to the rear of the building, or the road going to the annex building. 25. THE FOLLOWING SKETCHES WAVE IN DETAIL THE LOCATION OF FIRE ALARMS, FIRE EXTINGUISHERS, EXIT DOORS, AND NO SMOKING AREAS. Legend: 00, FIRE EXTINGUISHERS ————. FIRE ALARM FIRE Hose STATION FIRE ALARM ANNUNCIATOR HAS NINE STATIONS. OK Bell ~ BASEMENT STAIRWAY NO. 1 BOX B-2 - GROUND FLOOR LOBBY Box B-3 BASEMENT REACTOR BLOG., STAIRWAY NO. 3 BOX B-4 - SECOND FLOOR STAIRWAY NO. 1 BOX B-5 - OUTSIDE REACTOR CONTROL ROOM, SECOND FLOOR BOX B-6 - GROUND FLOOR STAIRWAY NO. 2 BOX B-7 SECOND FLOOR STAIRWAY NO. 2 BOX B-8 - UNDERGROUND REACTOR PUMP ROOM, REAR OF BUILDING. BOX B-9 - ATTIC FLOOR, STAIRWAY NO. 2 THE BOX NUMBERS OF THE ANNUNCIATOR CORRESPOND TO THE ALARM NUMBER, SUCH AS, BOX B-1 CORRESPONDS TO THE FIRE

ALARM (At). ---Page Break--- LEGEND = FIRE PUMP ROOM aa ---Page Break--- eIVYS 1 Sat f 4 = i L f |) swore as | m0 o | | anusioare - | / — o aos |e / wad} : C as < BOS | [> Le ~ r | \ | | nye | x woe L | > spveous | ruven [ena] aL ren | Soe TS tn | a LAL ' a OO — ge) sn 08 ONITING X3NNV MAINT BVFTOAN COW OLYaNd (((---Page Break--- yools .NaW3sve LI) [es 2 : 7 _ a al ---Page Break--- yoo74 aNNOXS so a ---Page Break--- ---Page Break--- ---Page Break---