

Regulatory Control Program of PNRI Facilities/Laboratories

The Internal Regulatory Control Program of PNRI Facilities/Laboratories was established thru PNRI Office Order 002 Series of 2004 and in accordance with the PNRI Policy Instruction No.02 Series of 2001 entitled Radiological Health and Safety Policy. The purpose of this Program is to set up an internal authorization process for PNRI nuclear and radiation facilities and laboratories. The Program will be implemented for the Philippine Research Reactor (PRR-1), Co-60 Multi-Purpose Irradiation Facility, Radioisotope Dispensing Laboratory, Radioactive Wastes Management and Interim Storage Facility, Secondary Standard Dosimetry Laboratory and other PNRI research laboratories where radioactive materials are used and handled. The Nuclear Regulations, Licensing, & Safeguards Division (NRLSD) was tasked to take the responsibilities to implement the Program.

Preparatory activities were undertaken by NRLSD for the implementation of the Internal Regulatory Control Program. Relevant Parts of the Code of PNRI Regulations, guidance documents and IAEA reference materials were reviewed and compiled in preparation for the implementation of the Program. The Regulatory Guide for the Preparation of Application for the Authorization of PNRI Nuclear and Radiation Facilities and Laboratories was developed in accordance with the PNRI Policy Instruction No. 02 Series of 2001 – Radiological Health and Safety Policy, a Regulatory Control Program for PNRI Nuclear and Radiation Facilities and Laboratories and with PNRI Office Order No. 002, entitled “Regulatory Control Program for PNRI Nuclear and Radiation Facilities and Laboratories”. The proposed Regulatory Guide is still under review for revision to include new subsections such as safety assessment and security plan.

In-house training program for the regulatory staff are being conducted in preparation for the in-coming regulatory review activities. It includes the following areas of training:

1. Basic Safety Standards (BSS)
2. Safe Transport of Radioactive Materials
3. Code of Conduct on the Safety and Security of Radioactive Sources
4. Safety Assessment of Radiation Facilities and Laboratories

Furthermore, a PNRI Special Order organizing a Task Force to review and evaluate applications for authorization of PNRI facilities/Laboratories was issued. The Task Force took charge of the development of application form for authorization of PNRI Facilities/Laboratories.

The application form for authorization of the research reactor (PRR-1) requires the following major items:

1. Radiation Control Programme which requires that PRR-1’s radiation protection and monitoring system to remain in operable condition during the period of extended shutdown and eventual decommissioning.
2. A Safety Analysis Report (SAR) for the justification of the design which is to be the basis for the safe extended shutdown and decommissioning of the research reactor.

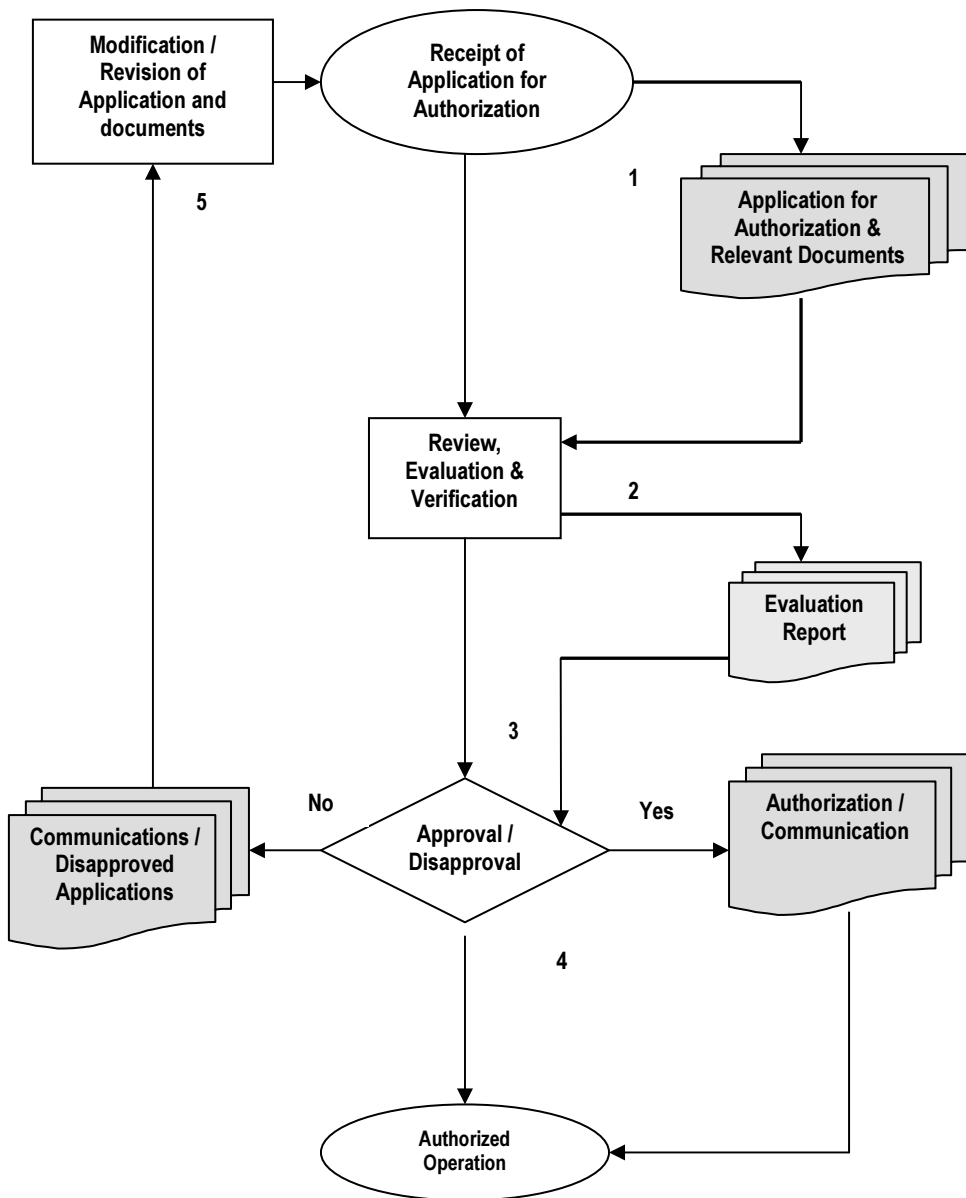
The SAR should provide the following:

- (a.) General description of the facility
- (b.) Safety objectives
- (c.) Site characteristics

- (d.) Buildings and structures
 - (e.) Reactor Description and Design
 - (f.) Reactor coolant systems and connected systems
 - (g.) Engineered safety features
 - (h.) Instrumentation and control
 - (i.) Electric power
 - (j.) Auxiliary systems
 - (k.) Radiological safety procedure
 - (l.) Conduct of activities during extended shutdown
 - (m.) Administrative and surveillance requirements
 - (n.) Quality assurance
3. A Decommissioning Plan which addresses the following:
- (a.) a description of the experience, resources, responsibilities and structure of the decommissioning organization, including the technical qualification/skills of the staff;
 - (b.) an assessment of the availability of special services, engineering and decommissioning techniques required, including any decontamination, dismantling and cutting technology as well as remotely operated equipment needed to complete decommissioning safely;
 - (c.) an assessment of the amount, type and location of residual radioactive and hazardous non-radioactive materials in the nuclear reactor installation, including calculational methods and measurements to be used to determine the inventory of each;
 - (d.) a description of the waste management practices, such as:
 - identification and characterization of sources, types and volumes of waste;
 - criteria for segregating materials;
 - proposed program for waste processing, storage, or transport to radioactive waste management facility of radioactive waste packages or disused sources;
 - the potential to reuse and recycle materials;
 - anticipated discharges of radioactive and hazardous non-radioactive materials to the environment

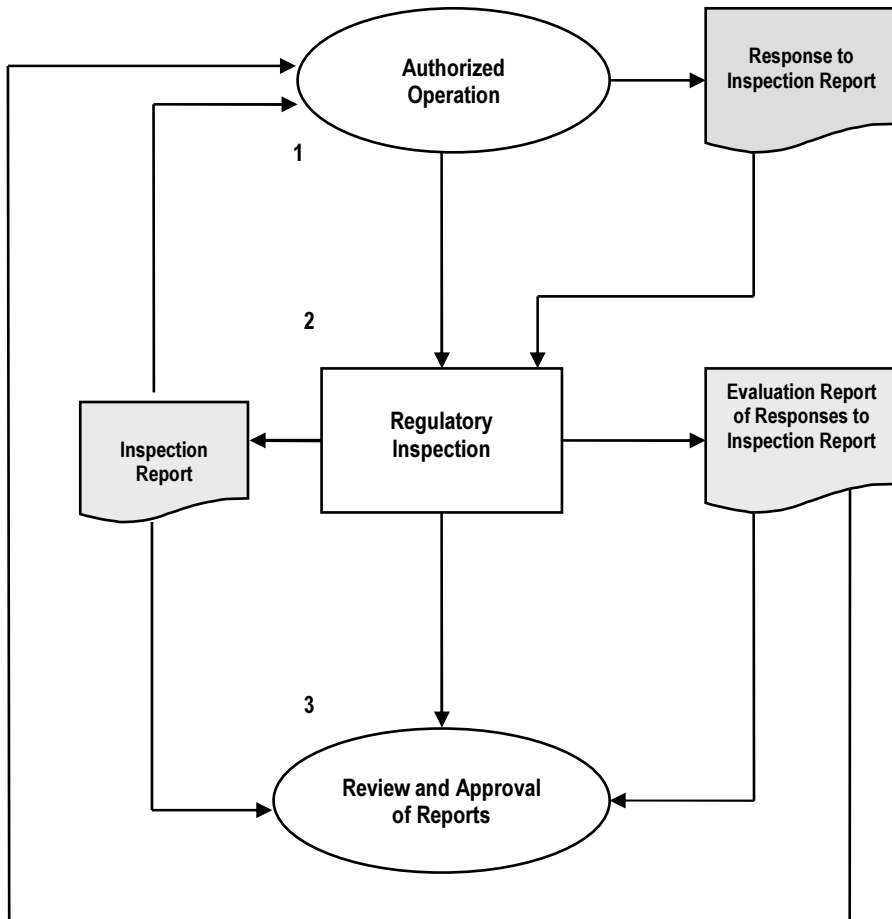
In preparation for the incoming review of applications for authorization which are expected to be received by the NRLSD on June 30, 2006, a Standard Review Plan (SRP) for this purpose is currently under preparation. This SRP will use checklists as tools in the review and evaluation of applications. The NRLSD Task Force prepared the necessary checklists following the order of required items in the application forms for authorization.

The processes in the implementation of the Internal Regulatory Control Program, i.e. Processing of Applications for Authorization and Related Documents and Compliance Monitoring of PNRI Radiation Facilities and Laboratories are illustrated in the flowcharts shown in Figures 1 and 2.



- 1. Chief, NRLSD
Receipt of Application for Authorization**
 - ✓ Receives Application for authorization from RSSB;
 - ✓ Endorses applications for authorization of PNRI Facilities and Laboratories & other relevant documents to NRLSD Task Force for review and evaluation.
- 2. NRLSD Task Force
Review, Evaluation & Verification**
 - ✓ Organized by the NRLSD Division Chief under SO No. 425 dated 22 November 2005.
 - ✓ Reviews and evaluates applications for authorization and other relevant documents following requirements stated in the REGULATORY GUIDE FOR THE PREPARATION OF APPLICATION FOR THE AUTHORIZATION OF PNRI NUCLEAR AND RADIATION FACILITIES AND LABORATORIES developed by the Task Force.
 - ✓ Evaluates submitted documents and compliances to the requirements based on the checklists for evaluation prepared by the Task Force.
 - ✓ Verifies information and practices described in the documents submitted through inspection.
 - ✓ Recommends for approval /disapproval of application for authorization.
- 3. Chief, NRLSD
Approval**
 - ✓ Approves /Disapproves Applications for Authorization.
 - ✓ Disapproved applications are transmitted back to the RSSB to the attention of the Facility Operator / Laboratory user.
- 4. Authorized PNRI Facilities / Laboratories
Authorized Operation**
 - ✓ Operate / perform activities in accordance w/ the terms and conditions of the authorization granted.
 - ✓ Responds to NRLSD communications within the prescribed period.
- 5. Facility / Laboratory Operators
Modification / Revision of Disapproved Application and documents**
 - ✓ Modifies /revises application forms for authorization and other relevant documents for submission.
 - ✓ Re-submit application form and relevant documents for authorization to its Division Chief for preliminary review and re-submission to the RSSB.

Fig. 1 PROCESSING OF APPLICATIONS FOR AUTHORIZATION OF PNRI RADIATION FACILITIES AND LABORATORIES



6. Authorized PNRI Facilities / Laboratories Authorized Operation

- ✓ Operate / perform activities in accordance w/ the terms and conditions of the authorization granted.
- ✓ Responds to NRLSD communications within the prescribed period.

7. NRLSD Task Force Regulatory Inspection /Compliance Monitoring

- ✓ Perform regulatory inspection at authorized PNRI facilities and laboratories.
- ✓ Perform compliance monitoring at authorized PNRI facilities and laboratories.
- ✓ Evaluates responses to evaluation reports.
- ✓ Submit inspection reports to NRLSD Chief approval.

8. NRLSD Chief Review and Approval of Reports

- ✓ Directs NRLSD Task Force to perform regulatory inspection to authorized facilities and laboratories.
- ✓ Reviews Inspection Reports and Evaluation Report of responses of Facility/laboratory to the Inspection Reports for transmittal to the facility/laboratory.

Fig. 2 INSPECTION AND COMPLIANCE MONITORING OF PNRI RADIATION FACILITIES AND LABORATORIES