

PI 21.06REPORTING AND ADMINISTRATIONOBJECTIVES

- 6.1 State who generates the following documents and what reliability information is available in them.
- a) Station Safety Report
 - b) Station Quarterly Technical Report
 - c) NGD-9, CANDU Operating Experience
- 6.2* Identify the reliability related responsibilities of the following groups:
- a) Design Division (Nuclear Studies and Safety, Quality Engineering)
 - b) Nuclear Operating Standards Department
 - c) Central Production Services Division
 - d) Station Reliability Unit

* Currently not required.

COURSE NOTES

In this module, we will be looking at some of the reports that you will come across while working in the Technical Section. These reports document our performance in the reliability areas that we've been discussing. For instance, how well we've kept to the availability targets, the number of significant events that we've had and the overall performance of the units.

We will also be examining the various groups in the corporation who deal with reliability issues. This will help to familiarize you with who does what and how they can be of assistance to your job in the field.

The Siting Guide

To ensure that the public and environment are kept safe, the Atomic Energy Control Board prepared a set of ground rules that described the radiation dose limits allowable for the general population. These limits then are the specifications that the designers have to ensure are not exceeded in the event of single and dual failures. The Siting Guide originated as a document issued in

STATION LIFE CYCLE

SITING GUIDE
(AECB)

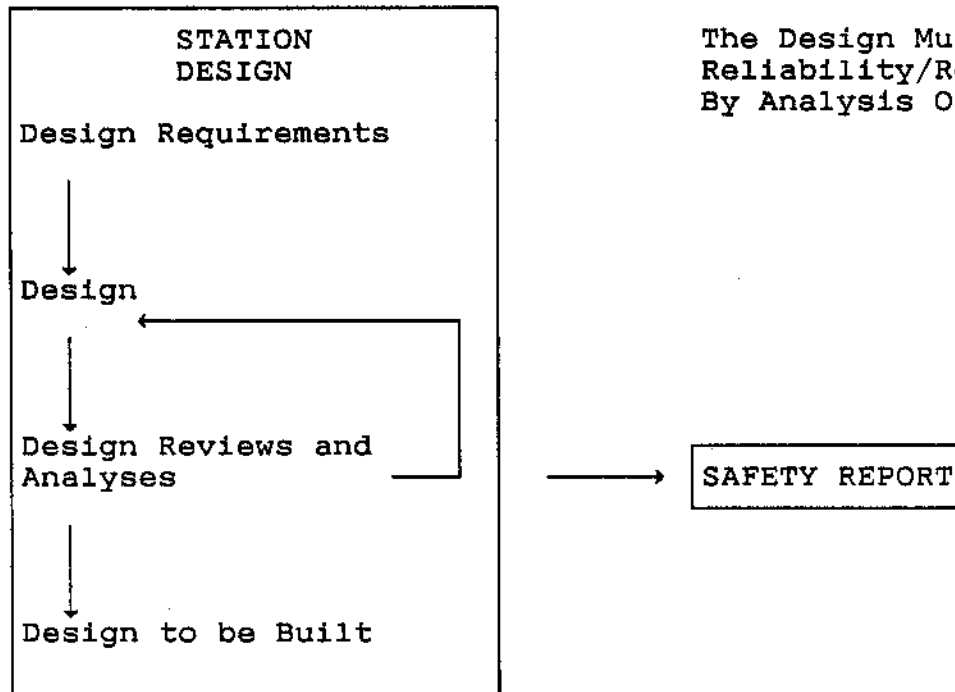
**RELIABILITY CONCERNS**

The Siting Guide
Establishes
Radioactivity Release
Limits And Allowable
Frequency

1964 with later revisions until the version which was presented as a paper ("Reactor Licensing and Safety Requirements") at a conference in 1972. This version is the one to which most of our stations have been designed.

Station Safety Report

This document is prepared by the designers of the station and submitted to the Atomic Energy Control Board prior to the construction of the station. It is to assure the AECB, as representatives of the public, that the conditions of the Siting Guide are met. The Safety Report



The Design Must Ensure That Safety/
Reliability/Release Limits Are Met
By Analysis Of System Performance

describes the design features that contribute to the safety of the public, the environment and the employees. In other words, to ensure that the first three main objectives of Ontario Hydro, as outlined in Module 1, are met.

Contents of the Safety Report include:

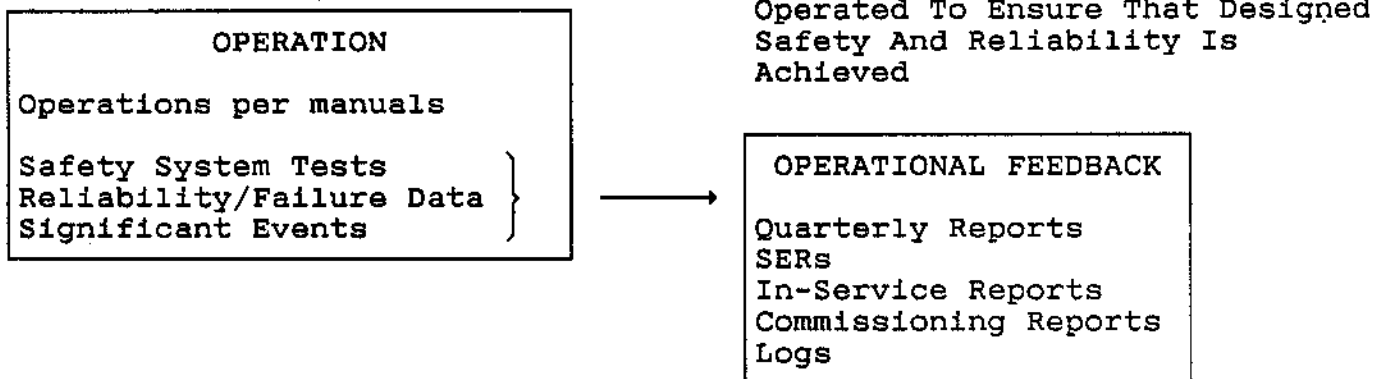
- Basic Safety Philosophy
- Factors Affecting Releases
- Emission Limits
- Design Criteria for the various systems including the structures, instrumentation, electrical supplies as well as the reactor and associated systems
- Radioactive Waste Management

- Radiation Protection
- Safety Assessment/Accident Analysis

Significant Event Reports (SERs)

In the operation of Nuclear Generating Stations, abnormal and unexpected events can occur which cause or have the potential to cause reduced protection for the health and safety of personnel, lost production or a major economic loss. These events are described as Significant Events. Examples include Loss of Regulation, Impairment of Safety Systems, Reactor Trips and accidents of a conventional nature (falls, electrical shocks, etc.).

Because they have important implications and because we don't wish to see them repeated, these events are documented and distributed within NGD. The Significant Event Report describes the background and occurrence of the event as well as comments by the staff as to what went wrong. The report is reviewed by more senior staff and a recommendation is made by the Station Manager as to how to avoid such an event in the future, for example, by changes to the Operating Procedures. A copy of this is sent to the AECB for their information.



Station Quarterly Technical Report

To monitor the performance of our units, technical staff at each station produce monthly and quarterly reports which document any upsets or abnormalities, as well as reliability statistics such as capacity factors, the number of times that a unit was out of service for maintenance, the number of spurious trips and unavailability figures.

Contents of the Quarterly Technical Reports include:

- Station Performance
- Review of Major Systems
- Staff Details

- Radiation Control
- Radiation Emergency Procedures
- Reactor Safety Reliability Assessment
- Summary of Lifetime Fault Data

The section on Reliability reports the actual unavailabilities of the safety systems as they were found in the station. It also records the number and type of any process or safety system faults as well as a summary of any Significant Events.

An appendix provides a glossary of terms used in the report. These terms include some of the ones we've discussed in this course and some others which you will be covering in other courses. These reports are located at their respective stations and centrally in the NGD Records Centre.

NGD-9, CANDU Operating Experience

Once a year, usually in May or June, a division wide report is prepared by the Central Production Services Group located at Head Office and reporting to the Director of the Nuclear Generation Division, which summarizes the performance of all of the nuclear stations in the corporation for the previous year. This report documents how successful we were at meeting our targets in the five major objectives: Employee Safety, Public Safety, Environmental Protection, Reliability of Electrical Supply and Production Cost. There is also a document, NGD-12, which gives the standings of our units in the world ranking. Both these documents are available by contacting the NGD Records Centre.

SUMMARY

In this module, we have looked at:

- The Siting Guide prepared by the AECS which defines the ground rules for the design of nuclear reactors as well as the radiation release limits.
- The Safety Report that is prepared by the designers to ensure that the proposed design meets the requirements set out in the Siting Guide.
- Significant Event Reports document events that have an important impact on the main objectives.
- Station Technical Reports record the actual reliability data.
- NGD-9, CANDU Operating Experience, reports on how well the targets in the five major objective areas have been met.

ASSIGNMENT

1. What reliability information do the following documents contain?
- a) NGD-9, CANDU Operating Experience

[illegible]

- b) Station Technical Reports

[illegible]

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