Docket No. 50-245
B12809

Attachment II

Millstone Nuclear Power Station, Unit No. 1

Integrated Implementation Schedule

Program Plan

March 1988

Millstone Unit No. 1

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Program Plan

I. Introduction

NNECO has developed the Integrated Safety Assessment Program (ISAP) for Millstone Unit No. 1 for the integrated evaluation, prioritization, and scheduling of plant-specific modifications and engineering evaluations. ISAP is intended to achieve a resource-efficient and cost-effective process for enhancing nuclear power plant safety and operation. ISAP accomplishes this objective by fostering corporate assessment and decision making with respect to plant improvements and studies, and by facilitating an Integrated Implementation Schedule (IIS).

The purpose of this Program Plan is to describe the process NNECO will follow under ISAP to develop the IIS for Millstone Unit No. 1. The IIS resulting from the process described in the Program Plan will be NNECO's controlling schedule for implementing modifications and engineering evaluations of a well-defined scope for Millstone Unit No. 1. The IIS will assure that in scheduling implementation of projects and studies, available resources are devoted to the extent practicable in a prioritized and cost-effective manner. As such, the IIS and this Program Plan fulfill a condition of the Millstone Unit No. 1 operating license.

This Program Plan describes in general the ISAP methodology and the role of ISAP in the scheduling of projects and studies. The Program Plan also addresses NNECO's organization and process for developing the IIS, NNECO's responsibilities with respect to submitting the schedule and updates to the NRC, the NRC's responsibilities with respect to review of the ISAP process and the IIS, and mechanisms for changing and updating the Program Plan itself.

In summary, through ISAP and the IIS process described in the Program Plan, NNECO intends to achieve two primary objectives: first, to optimize the allocation of NNECO and NRC resources among those activities necessary or desirable to assure safe, reliable, and economic operation of Millstone Unit No. 1; and, second, to assure that both NNECO-initiated activities and NRC-required or recommended activities are evaluated and scheduled according to a consistent and integrated methodology.

II. Overview of ISAP and IIS Development

The Millstone Unit No. 1 ISAP began in May 1985 as a pilot program conducted by NNECO in conjunction with the NRC. As currently implemented, the issues, projects, and studies to be evaluated under ISAP for Millstone Unit No. 1 include generally:

- o Current and pending licensing actions and requirements;
- o NNECO initiatives and plant improvement projects;
- o NNECO's ongoing engineering evaluations or studies;
- o Any major tasks resulting from mandates of agencies other than the NRC.

All of the above comprise the "topics" for evaluation and scheduling under ISAP. ISAP specifically encompasses NNECO's process for evaluating each topic to determine the optimal resolution (if any) and for making a priority determination for each proposed plant-specific modification. All of those projects which are well-defined and deemed to be warranted are ultimately scheduled in the IIS.

The following subsections provide an overview of ISAP and the process used to develop the IIS.(1) Figure 1 shows a simplified flow diagram for the entire process.

A. Analytical Ranking Model (ARM)

For ISAP, NNECO utilizes the ARM for arriving at a prioritized ranking of projects proposed to resolve individual ISAP topics. The ARM will be specifically utilized to prioritize only specific proposed plant modifications. Ongoing engineering evaluations addressing ISAP topics will not be prioritized using the ARM. NNECO has found it to be a more meaningful approach to prioritize only the proposed modifications once they have been identified as a result of the engineering studies. Therefore, those ISAP topics that have not yet resulted in specific plant modifications (i.e., the unresolved topics) will be deferred for further evaluation in ISAP. However, the schedule for ongoing engineering evaluations will be included in the IIS.

The ARM includes individual models for scoring these topic resolutions with respect to four attributes which have been judged to represent NNECO's goals and objectives for Millstone Unit No. 1. The four attribute models are:

- o Public Safety - Impacts on the risk to public safety are determined utilizing deterministic and PRA (where applicable) evaluations, in conjunction with subjective judgement.

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(1) Further details have been previously submitted to the NRC in the Millstone Unit No. 1 ISAP Final Report, dated July 31, 1986 (Reference 1). However, because ISAP is an evolving process, the methodology described in Reference 1 and in the models provided herein, will be periodically refined. NNECO therefore does not intend to incorporate Reference 1 into this Program Plan.

- o Personnel Safety - Impacts on occupational radiation exposure and industrial safety are determined utilizing a combination of quantitative and qualitative factors.

- o Economic Performance - Impacts on plant availability, efficiency, output and the core power rating are determined utilizing plant-specific models.

- o Personnel Productivity - Impacts on people, equipment, and environment as they relate to work quality and productivity are determined by subjective judgement supplemented by available qualitative data.

The ARM includes a project scoring methodology, attribute weighting factors, and a process for arriving at a final integrated score combining all four attribute impacts, or "benefits" (either positive or negative). The models have been submitted to the NRC in Reference 1 but, of course, are subject to ongoing development and change.

Ultimately, the ARM is utilized to develop an initial ranking of all projects evaluated based on a benefit/cost ratio. The value is based on the post-implementation attribute impacts determined by combining the attribute scores and dividing by the project cost. This initial ranking will be utilized in the next step in development of the IIS.

Note also that the ARM will be applied on a regular basis to incorporate new projects as they are identified and to maintain an up-to-date input for the Initial Prioritization Screening/Integrated Implementation Schedule scheduling process.

B. Initial Prioritization Screening (IPS)

The overall ISAP evaluation is designed to provide an objective basis for ranking candidate plant improvement projects. However, the process cannot be completely mechanistic. The second step in the overall evaluation process -- and therefore in the development of the IIS -- is the IPS. The IPS is a screening process for the ARM initial project rankings to assure that the prioritization is reasonable, accurate, current, and appropriately reflects other external factors.

The IPS considers the ARM initial ranking with other factors, including current installation man-rem, data on the payback of implementation costs, and management overview of the benefit/cost determination. During the IPS, NNECO also considers the impact of external factors important to the project ranking. These external factors include NRC actions and requirements, actions of state/local government agencies, actions of other federal regulatory agencies, and actions of industry organizations. These third party influences may dictate a higher or [illegible], than would be indicated by the ARM alone. For example, [illegible] required to operate Millstone Unit No. 1 within NRC regulatory requirements. To the extent specific requirements are applicable [illegible] is not otherwise exempted, NNECO will rank and schedule [illegible] consistent with binding NRC orders and regulations.

Another important element of ISAP is the qualitative "threshold" concept, such that issues shown in the integrated assessment to be of little or no benefit will be deferred or dropped. This can occur, for example, if the proposed project has insufficient intrinsic benefit or if it is obviated by other projects which will be implemented. NNECO considers candidate projects to be dropped during the IPS. As a result, the final project rankings to be utilized in development of the IIS will include only those ISAP projects that have been specifically identified for implementation.

C. Integrated Implementation Schedule (IIS)

The need for an IIS derives from the fact that available resources (dollars and manpower), ALARA goals, and available outage time are much less than required to immediately implement the current backlog of plant modifications and engineering studies identified to resolve all the ISAP topics. In addition, in order to meet regional power needs and corporate objectives, outage time must be minimized. The IIS therefore is intended to optimize NNECO's use of resources to implement projects and studies, consistent with certain "real-world" constraints.

Essentially, in the IIS, activities are scheduled based on consideration of many factors and constraints, including:

- o The IPS evaluation, which includes ARM rankings;
- o Resource availability, including budgets (capital and expense), manpower availability, and equipment/material availability;
- o Planned outage duration, which is based on regional electric power needs and NNECO initiatives; and
- o Personnel radiation exposure (ALARA), based on current ALARA budgets.

While there is no "cookbook" approach to determining what projects should be done during a given outage, the above factors are considered in an interactive IIS decision-making process incorporating the input and review of knowledgeable people within the company.

Generally, the starting point for the IIS for each outage is a given outage duration based on the minimum time required for the refueling cycle. Projects are selected to fit this outage schedule. This represents a change from past practice, whereby the length of an outage was selected based on the usually long list of projects planned to be completed.

Given the scheduled outage duration, NNECO initially selects projects to be completed based on the final IPS. If a high priority project a) can be supported by the necessary resources, including manpower, available man-rem, equipment, and dollars, and b) does not otherwise impact critical path for the outage, the project is scheduled. On the other hand, if a project cannot be supported by resources, it must be

deferred until such time as the necessary resources are available. If the project can be supported but would impact critical path, NNECO subjectively considers the issue based on the ARM assessments, external considerations, and other subjective factors prior to making a decision. For example, based on the completed evaluations of attribute impacts and the overall score, NNECO decides whether the project is of such importance that it should override the outage schedule. If a project is deemed to be of such importance, it is scheduled and the outage extended. If not, the project is deferred for consideration in the context of the next scheduled outage or implemented in more than one phase.

The IIS decision making process incorporates management overview and the potential for multi-unit integration. This latter factor will ultimately allow Northeast Utilities to fully coordinate and optimize utilization of resources across all of its nuclear power plants.

Finally, the IIS is a "living" schedule. It is revised as new projects and studies are identified and up-to-date information becomes available to define the applicable scheduling considerations and constraints.

III. Scheduling/Modifications

Each current IIS will be developed and issued based upon the ISAP prioritization and scheduling process described above. The IIS is a schedule for all projects and engineering studies NNECO plans to undertake or that are in progress. The IIS may also incorporate activities requiring significant resource expenditures that have not been included within the scope of ISAP.

As discussed above, an important aspect of NNECO's IIS planning effort is the recognition that the schedule will need to be modified at times to reflect changes in or newly-identified regulatory requirements, incorporate newly identified resolutions to previously deferred ISAP topics, to accommodate new activities identified by NNECO to improve plant efficiency and reliability, and take into account delays resulting from events beyond NNECO's control. The procedures for determining the schedule outlined above will be followed for changes to the schedule. In addition, however, it is important that changes to the schedule be documented and that NRC play a role in the oversight of the scheduling process. Accordingly, NNECO's responsibilities with respect to modifying the IIS, the NRC's oversight role, and the interaction between NNECO and the NRC are discussed below.

A. NNECO Responsibilities

Inherent in the concept of ISAP and the IIS is a responsibility on the part of NNECO that it maintain the integrity of ISAP and the IIS, monitor the progress of all work undertaken, manage its activities to maintain the schedule, and act promptly to take necessary actions when a schedule change is needed.

In recognition of one aspect of this responsibility, NNECO will update the IIS at least semi-annually and submit the revised schedules to the NRC. The first such revision will be submitted no later than six months following NRC approval of this Program Plan. In addition, NNECO will:

- o Perform such ISAP priority determinations as are necessary to support the revised IIS;
- o Schedule new or changed activities to avoid rescheduling other activities well underway, if it can be reasonably achieved;
- o Summarize progress in implementing plant modifications or engineering evaluations addressing NRC requirements or orders which have specific implementation dates; and
- o Identify changes since the last report.

Activities in the IIS may be rescheduled by NNECO, consistent with applicable regulations and orders, without NRC approval. NNECO may also add new activities to the IIS without NRC approval. However, ISAP is an interactive program between NNECO and the NRC. In addition to the scheduling updates as described above, NNECO will keep the NRC Project Manager informed as to: significant changes in the schedule for activities addressing NRC-initiated regulatory issues; changes to the scope of existing ISAP topics (e.g., changes to a project intended to resolve a topic); or the addition of new topics within the program.

B. NRC Oversight

NRC will provide oversight to the IIS scheduling process based on a review of the IIS and periodic updates. The NRC will also monitor NNECO's adherence to the schedule. However, neither the IIS nor this Program Plan are considered to be formal parts of the associated Millstone Unit No. 1 license condition. Therefore, a license amendment is not necessary for changes in the IIS or this Program Plan.

ISAP and the IIS do not in any way limit the NRC's licensing or enforcement authority with respect to NNECO's binding legal obligations. Accordingly, where an implementation date for an activity is fixed by binding NRC regulation or order, NNECO is obligated to meet the date or seek an appropriate exemption to support a later date in the IIS, or seek to eliminate the requirement in whole or in part. Also, to the extent an activity in the IIS is based on an NRC-initiated regulatory issue, NNECO is committed to continue to fulfill commitments as necessary to maintain substantive compliance with regulations. It is noted that the ISAP evaluation results may assist in forming the appropriate bases for scheduler or permanent exemptions to regulations or other NRC-mandated regulatory requirements.

NNECO's ISAP documentation and the IIS and updates are not subject to quality assurance requirements of 10 CFR Part 50, Appendix B. NRC oversight of ISAP and the IIS process therefore does not extend to audits of the documentation developed in the scheduling process.

NNECO recognizes that formal NRC regulatory actions (i.e., orders or new regulations) may impose a new regulatory requirement with a fixed date or establish a firm date for a previously identified regulatory requirement. In taking any such action, the NRC, to the extent consistent with its overall regulatory responsibilities and public health and safety, will take into account the impact of any such action on NNECO's ability to complete effectively the activities scheduled in the IIS. Accordingly, once such formal regulatory action is taken (or earlier, if possible), the NRC will provide NNECO a reasonable opportunity to evaluate proposed activities and determine a revised IIS in accordance with the procedures established above. NNECO will inform the NRC of any resulting changes in the IIS as part of the semi-annual IIS update (see Section III.A).

In addition, the NRC may identify a new regulatory issue that could be determined to require some plant-specific resolution for the Millstone Unit No. 1 (e.g., a hardware or procedure modification). For these issues, the NRC will not specify completion dates, unless such a date is established by a generic regulation or order. Rather, the NRC will request that NNECO evaluate the topic under ISAP and incorporate the resulting activity into the IIS. NNECO will establish a completion date consistent with its priority relative to the activities already in the IIS and consistent with the other factors considered by NNECO in the scheduling process. NNECO will inform the NRC of the proposed schedule as part of the semi-annual IIS update (see Section III.A).

IV. Modifications to the Program Plan

NNECO recognizes that the Program Plan itself may require future revision as ISAP is further developed and refined. Accordingly, if such a modification is deemed necessary by NNECO, a revised Program Plan will be submitted for NRC review and approval. The revised Program Plan will become effective upon notification to NNECO of NRC approval.

V. References

1. J. F. Opeka letter to C. I. Grimes, "Integrated Safety Assessment Program - Final Report for Millstone Unit No. 1," dated July 31, 1986.

I S A P FLOWCHART

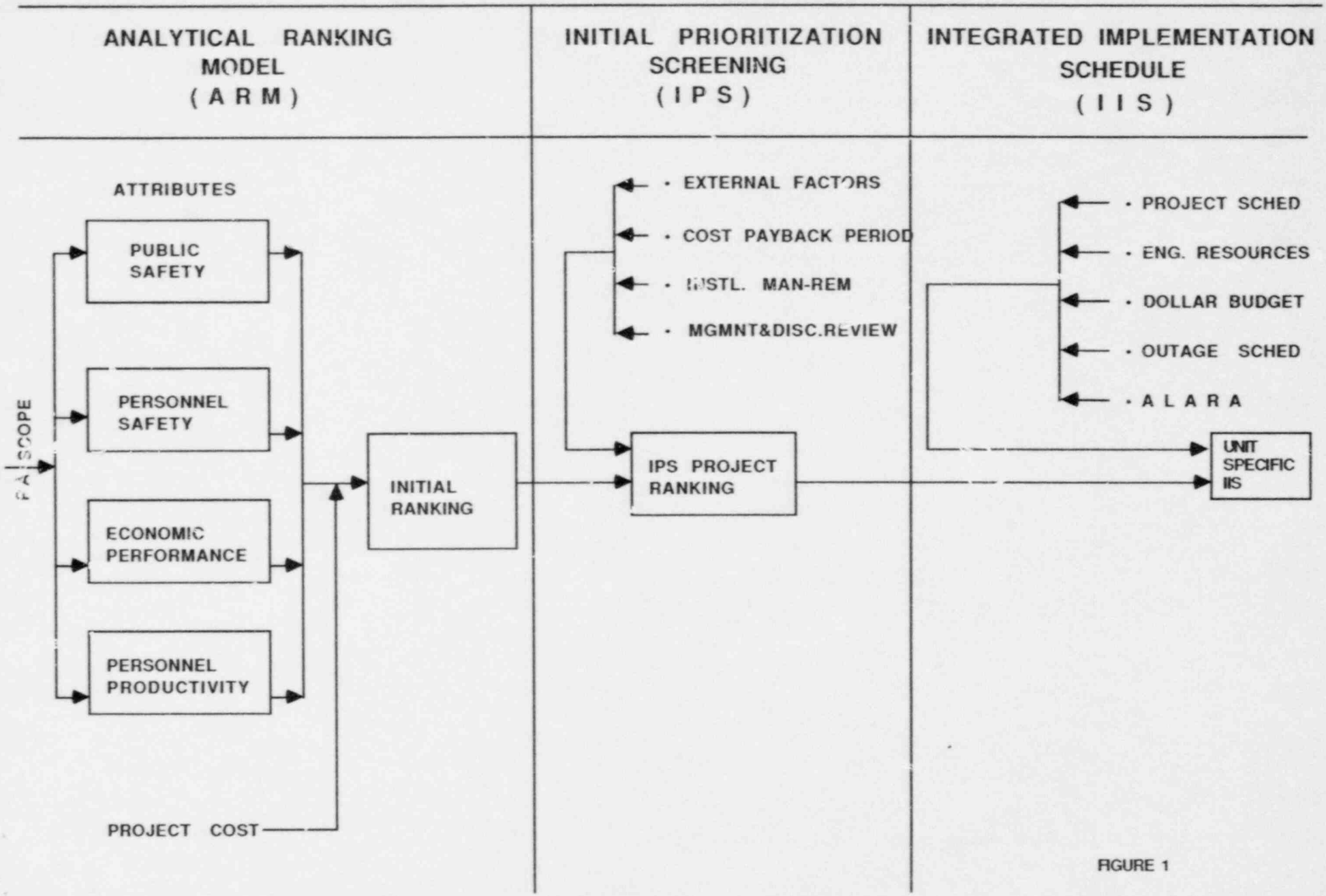

FIGURE 1