



CHARLES CENTER • P. O. BOX 1475 • BALTIMORE, MARYLAND 21203

ARTHUR E. LUNDVALL, JR.  
VICE PRESIDENT  
SUPPLY

July 8, 1985

Office of Nuclear Reactor Regulation  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

ATTENTION: Mr. Hugh L. Thompson, Jr. Director  
Division of Licensing

SUBJECT: Calvert Cliffs Nuclear Power Plant  
Unit Nos. 1 & 2; Docket Nos. 50-317 & 50-318  
Generic Letter 85-07, Implementation of Integrated Schedules for Plant  
Modifications

---

Gentlemen:

The Baltimore Gas and Electric Company is currently developing and implementing an Integrated Living Schedule program for Calvert Cliffs. The concept of integrated scheduling has been the subject of several informal meetings between the NRC staff and representatives of the Baltimore Gas and Electric Company. Following these meetings, we initiated a feasibility study in late 1983 leading towards development of what we currently refer to as our Integrated Management System (IMS). The IMS is a planning and scheduling system designed to provide nuclear program management personnel with a resource leveling, tracking, and reporting capability. The scheduling portion of the system uses a risk-based prioritizing methodology for project ranking based on a risk-cost/benefit ratio.

Our current implementation plans do not include submitting a license amendment request for this system. We have some reservations on the potential impact of such an amendment, and in any case, consider such a change to be premature without first gaining some experience with our system. However, we will continue to evaluate our position regarding the licensing question. We believe that the benefits accrued through the use of this system will still have a very positive impact on managing our nuclear program and meeting the regulatory commitments associated with the Calvert Cliffs facility regardless of whether the system becomes a license requirement.

8507090333 850708  
PDR ADOCK 05000317  
PDR

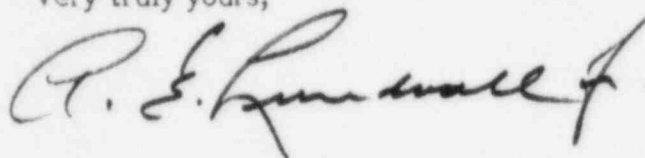
*Foot*  
*11*

Mr. Hugh L. Thompson, Jr.  
July 8, 1985  
Page 2

The completed Enclosure 2 of Generic Letter 85-07 is attached (see Attachment 1). Attachment 2 is provided in an attempt to respond in greater detail to the questions from Enclosure 2. Additionally, Attachment 3 is a copy of correspondence from Mr. J. A. Tiernan to Mr. J. R. Miller, dated February 14, 1985, that responded to an informal NRC request for information on the ILS status.

Should you have further questions regarding this reply, please do not hesitate to contact us.

Very truly yours,

A handwritten signature in cursive script, appearing to read "P. E. Lumsden".

AEL/SRC/LOW/dlm

cc: D. A. Brune, Esquire  
G. F. Trowbridge, Esquire  
D. H. Jaffe, NRC  
T. Foley, NRC

ATTACHMENT I

RESPONSE FORMAT - GENERIC LETTER 85-07

PLANT NAME: CALVERT CLIFFS NUCLEAR POWER PLANT

UTILITY: BALTIMORE GAS and ELECTRIC COMPANY

I. INTENTIONS

- A. Intend to work with the staff to develop an ILS \_\_\_\_\_
- B. Have reservations that must be resolved before developing ILS \_\_\_\_\_
- C. Do not presently intend to negotiate an ILS with the staff X
- D. Plan to implement an informal ILS only X

II. STATUS

A. If you answered I.A above:

1. Have you settled on a method for prioritizing the work at your plant(s)?

Circle One:    Yes       No

If yes, select best description:

Engineering judgement \_\_\_\_\_  
Analytic Hierachy process \_\_\_\_\_  
Risk based analysis \_\_\_\_\_  
Cost-benefit analysis \_\_\_\_\_  
Other (please describe) \_\_\_\_\_

If no, provide estimated date for selecting a methodology:

\_\_\_\_\_  
Date

or

If not presently available, provide estimated date for scheduling the selection of a methodology: \_\_\_\_\_

## ATTACHMENT 1

2. What is your estimated date for making a submittal to the NRC- \_\_\_\_\_

or

If not presently available, planned date for scheduling a submittal to the NRC \_\_\_\_\_

- B. If you answered I.B above:

1. Please explain your reservations on separate sheet(s) or provide your schedule for supplying an explanation \_\_\_\_\_

See separate sheet(s)

or

Separate submittal scheduled for \_\_\_\_\_

\_\_\_\_\_ Date

2. If available to meet with the staff to discuss your concerns, propose a time frame for such a meeting and provide a contact that can make arrangements.

Contact/Time Frame \_\_\_\_\_

Phone Number \_\_\_\_\_

- C. If you answered I.C

1. Would you be willing to meet with the staff to discuss the development of an ILS for your facility(s)?

Circle One: ☒ Yes ☐ No

If yes, propose a time frame for such a meeting and provide a contact that can make arrangements.

Contact (See Response II.C.1, Attachment 2)

Time Frame \_\_\_\_\_

Phone Number \_\_\_\_\_

If no, any constructive comments you have would be appreciated.

### III. ADDITIONAL ITEMS

Please make any suggestions you may have as to how a utility sponsored availability/reliability project might be credited for plant safety enhancement. Provide additional constructive comments as appropriate.

See ATTACHMENT 2.

ATTACHMENT 2  
RESPONSE TO ENCLOSURE 2 OF  
GENERIC LETTER 85-07

I. INTENTIONS

- C. Do not presently intend to negotiate an ILS with the staff.

BG&E RESPONSE

The Baltimore Gas and Electric Company (BG&E) does not intend to negotiate an ILS with the staff but would be open to any suggestions during development of our non-licensed system. In the interest of simplifying license requirements and reducing administrative burdens, we do not believe that incorporating an ILS as a license condition will serve the best interests of our company. Enclosure 1 of Generic Letter 85-07 states the intent of a formal license amendment in the following manner:

- "The schedules (ILS) are subject to change for good cause and with prior notification. It is not intended, nor would it be appropriate, for the NRC to become involved in the licensee's financial planning and funding processes for these plant improvements."
- "Licensee-initiated plant changes would only appear on the schedule as necessary to permit an overall understanding as to how they are being integrated with the NRC initiatives. For example, a licensee modification initiative that can be installed independent of ongoing NRC work required activities, would not be expected nor need to appear on the integrated schedule at all."

We do not believe it is appropriate to segregate resources into two distinct categories that are dedicated to regulatory-initiated work and licensee-initiated work. In practice, all work, whether regulatory or licensee-initiated draws from the same pool of resources. Any attempt to integrate licensee projects into a licensed schedule containing regulatory projects creates a schedular interdependence between the two types of projects due to the common resource pool shared.

The intent of the formal license agreement stated in Generic Letter 85-07 is to allow for schedular change "for good cause and with prior notification." Our company management practice in the past has been to prioritize regulatory-initiated projects to meet commitment dates at the expense of licensee-initiated projects. Only in rare cases have BG&E/staff resources been called upon to generate the necessary documentation to gain relief from regulatory-initiated projects. If the intent of the ILS concept is to establish relative priorities among licensee and regulatory projects and to provide for integration of each, then it is our belief that the price to be paid by the licensee (and NRC) is a greater administrative burden. We do

## ATTACHMENT 2

not believe this is necessary and it may be construed by many of the "good performers" in the industry as a penalty. We feel that the utility industry has learned considerably from past events and has more than enough economic incentive to respond in a responsible manner to NRC and industry-identified plant safety concerns without the encumbrance of legal incentive and the associated administrative burden.

- D. Plan to implement an informal ILS only.

### BG&E RESPONSE

The Baltimore Gas and Electric Company currently plans to implement an informal (non-licensed) ILS. In many ways, however, this system could be considered a formal management system. The ILS will be formally implemented on an interdivisional basis, including all departments participating in the nuclear program. The ILS will provide a formal mechanism for prioritizing work in support of operations and will be instrumental in scoping and formulating budget allowances for participating departments at Calvert Cliffs. The ILS prioritization system will be used in establishing the relative priority of both regulatory and licensee-initiated projects and will provide the company's licensing units with a decision support tool for determining regulatory commitment dates.

## II. STATUS

- C.I. Would you be willing to meet with the staff to discuss the development of an ILS for your facility?

### BG&E RESPONSE

The Baltimore Gas and Electric Company is willing to meet with the staff to discuss development of our IMS. Since our current plans are to develop an informal system, any meetings with the staff would be for information exchange. BG&E would be under no obligation to act on any development suggestions offered by the staff.

## III. ADDITIONAL ITEMS

Please make any suggestions you may have as to how a utility sponsored availability/reliability project might be credited for plant safety enhancement. Provide constructive comments as appropriate.

### BG&E RESPONSE

We believe there are numerous examples of utility sponsored availability/reliability projects that can be credited for plant safety enhancement. Traditionally, there has been a great deal of concern and a large expenditure of resources dedicated towards researching issues and backfitting plants to improve the response to design-based accidents. The long list of outstanding generic issues provides adequate testimony to this fact. Unfortunately, the staff's approach to resolving these issues has often resulted in

## ATTACHMENT 2

an emphasis on low probability events or on events for which the risk is primarily economic in nature.

There is another class of less severe accidents that have a greater probability of occurrence. These accidents could result from off-normal/abnormal operating conditions that can potentially challenge plant safety systems and impact public safety. We believe that there has been a disproportionately smaller amount of resources in the past dedicated to reducing the unnecessary number of plant challenges caused by unreliable equipment. In general, industry efforts to correct these deficiencies have been stifled by the backlog of regulatory-initiated projects which, in many cases, improve overall safety less than many of the utility identified improvement projects.

Examination of the outstanding NRC generic issues, including those which consider the likelihood of core melt accident sequences, reveals that while the vast majority of these issues have been determined to constitute very little risk to public health and safety, some issues may involve significant potential for threatening the large economic investment a utility holds in a nuclear power plant.

Many of these issues can be successfully resolved by utility reliability and availability initiatives. Increased equipment reliability decreases the frequency of operating transients which might challenge safety systems or damage plant equipment while at the same time it increases our confidence that safety systems will respond properly in mitigating the severity of the transient. Thus, reliability initiatives reduce economic risk by protecting the plant. This protection enhances public health and safety far more effectively than regulatory initiatives which would simply require the addition of new safety systems aimed simply at mitigating the effects of low probability accident sequences. Further, the utility industry is in the best position to identify and correct the equipment deficiencies that are the central concerns of the outstanding NRC generic issues.

As an example of BG&E's commitment to these concepts, we have joined with a majority of nuclear utilities to form the Nuclear Utility Group on Station Blackout to address issues pertaining to the reliability of normal and emergency AC power sources at nuclear power plants. This is a first-of-a-kind effort by utilities to demonstrate to the NRC that equipment reliability initiatives aimed at protecting plant investment can substitute for new regulations and do so more effectively and at far less cost to society.

There are many instances when BG&E has implemented plant improvement projects or reliability enhancement programs to reduce unnecessary plant trips or forced outages, all of which result in an increase in the level of protection afforded the public.

A brief list of proposed safety enhancing projects identified by our company for Calvert Cliffs follows. These projects are among those currently undergoing prioritization within our IMS program.



## ATTACHMENT 2

1. Reactor Coolant Pump motor overhaul
2. Low-power feedwater regulating system upgrade
3. Feed pump control upgrade
4. Diesel Generator lube oil system modifications
5. Reactor Coolant Pump seal replacement/modifications
6. Reactor Coolant Pump Motor surge capacitor upgrade
7. Control Element Assembly drive motor evaluation/replacement
8. Replacement of packed valves in the RCS Boundary with packless valves.





CHARLES CENTER • P. O. BOX 1475 • BALTIMORE, MARYLAND 21203

JOSEPH A. TIERNAN  
MANAGER  
NUCLEAR POWER DEPARTMENT

February 14, 1985

U.S. Nuclear Regulatory Commission  
Office of Nuclear Reactor Regulation  
Division of Licensing  
Washington, D.C. 20555

ATTN: Mr. J. R. Miller, Chief  
Operating Reactors Branch #3

Subject: Calvert Cliffs Nuclear Power Plant  
Unit Nos. 1 and 2, Docket Nos. 50-317 and 50-318  
Integrated Living Schedule Concept

Gentlemen:

On May 9, 1983, Generic Letter 83-20, "Integrated Scheduling for Implementation of Plant Modifications," was issued. This letter endorsed the integrated living schedule concept and encouraged licensees to develop integrated living schedules. An acceptable example was provided by referencing the schedule developed by Iowa Electric Lighting and Power Company for the Duane Arnold Energy Center. Prior to the date of issue of Generic Letter 83-20, the integrated living schedule concept had been the subject of two informal meetings between the NRC staff and representatives of Baltimore Gas & Electric Co. At these meetings we indicated that the concept appeared to have merit as a management tool and that we would investigate the matter further. During the latter part of 1983, we held discussions with utilities and consulting firms having experience in this field so we could better understand the level of effort and licensing commitment involved in the development and maintenance of an integrated living schedule.

Following the preliminary investigations, a committee was established and tasked with (1) performing an assessment of our existing scheduling systems over a six month period, (2) determining the feasibility of developing an interdepartmental system to prioritize and schedule all activities supporting Calvert Cliffs (NRC and BG&E initiated), and (3) making recommendations on how best to implement such a system. A consulting firm was hired to assist in our assessment.

On the basis of our findings, we have initiated development of the Calvert Cliffs Integrated Management System (IMS), which will be similar (in some respects) to internal integrated scheduling systems in place at other nuclear facilities. To derive the maximum benefit as a management tool, the IMS effort has been scoped in a manner which we believe goes beyond the current efforts developed and being used within the industry. The purpose of IMS will be to provide interdepartmental planning, scheduling, and budgeting at the management level for all major modifications, activities, and services associated with supporting Calvert Cliffs. The IMS will provide a mechanism

4502204100 2pp

J. R. Miller  
February 14, 1985  
Page 2

by which NRC-proposed modifications and activities will be prioritized and scheduled along with BG&E identified improvement projects. The prioritization system is being developed on the basis of optimizing the implementation of projects which contribute most to public safety, personnel safety, economic performance and productivity of the Calvert Cliffs facility without adversely impacting safety. Eventually we hope to "resource constrain" the IMS data base so schedules developed via the system appropriately reflect our actual manpower capabilities and budgetary limitations.

We plan to complete development of the IMS data base in early 1985. This will facilitate using the system on a trial basis. It is clear that a substantial period of time will be required to implement the final system because all departments supporting Calvert Cliffs will be participating. We have not defined a final implementation date at this point in the development process.

We believe the IMS has the potential to provide an improved basis from which to negotiate the schedules for implementing regulatory requirements, while lending appropriate consideration to plant betterment projects and maintenance activities. Our past performance in negotiating and meeting regulatory commitments has generally been satisfactory. We expect our future performance in this area will be enhanced with the IMS in place, and in view of the present NRC trend toward pre-integration of generic technical issues so as to provide for logical and efficient implementation of necessary regulatory changes, we do not believe that a "license contract" to facilitate the schedule change process will be necessary.

Should you have questions regarding this information, please contact us.

Very truly yours,



JAT/BSM/LOW/bsb

cc: D. A. Brune, Esq.  
G. F. Trowbridge, Esq.  
Mr. D. H. Jaffe, NRC  
Mr. T. Foley, NRC

bcc: J. A. Tiernan  
C. H. Cruse  
R. H. Kent  
G. V. Bresnick  
R. M. Douglass  
G. C. Creel  
L. B. Russell  
R. E. Denton

J. R. Lemons  
W. J. Lippold  
R. F. Ash  
R. C. L. Olson  
M. J. Miernicki  
D. W. Latham  
W. L. Whitaker