

JUL 23 1980

MEMORANDUM FOR: Chairman Ahearne
Commissioner Gilinsky
Commissioner Hendrie
Commissioner Bradford

(Signed) William J. Dircks,

THRU: William J. Dircks, Acting Executive Director for
Operations

FROM: Harold R. Denton, Director, Office of Nuclear
Reactor Regulation

SUBJECT: LOW-LEVEL WASTE MANAGEMENT AT BROWNS FERRY

This is in response to Commissioner Bradford's memorandum of June 2,
1980 on the above subject. This memorandum requested information on:

1. TVA's plans to build a low-level waste storage facility at Browns
Ferry.
2. Whether NRC approval is required for this facility, whether public
hearings have been requested and what actions NRC has taken
concerning TVA's plans.

TVA's Plans

Briefly, TVA plans to construct two separate low-level waste facilities
onsite. One facility would consist of 14 large, concrete cubicles for
the sole purpose of storing low-level waste onsite for the life of the
plant. The facility would be located on the Browns Ferry site outside
the existing security fence and would have its own security control
and fire protection system. There would be no treatment or processing
of low-level waste in this facility. TVA recently started construction
of the first four cubicles.

The second facility - the Radwaste Volume Reduction Building - would
be an addition to - and tied into - the existing radwaste building.
Space would be provided in this building for an incinerator as well
as improved processing, solidification and drumming equipment. TVA's
schedule calls for completion of this building by the summer of 1984
and to have an incinerator operational by 1985.

A more detailed description of TVA's plans is enclosed.

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U. S. DEPARTMENT OF AGRICULTURE

Have public hearings been requested?

As of July 1, Staff had received two letters from local residents on low level waste management at Browns Ferry. One letter requested that "there be a public hearing and environmental impact statement on the proposed facility for compaction and incineration of low-level wastes at TVA's Browns Ferry Plant." The second letter referenced the first letter and asked nine questions regarding TVA's environmental assessment, NRC regulations pertaining to TVA's proposed low-level waste management program and what action NRC proposes to take on TVA's program. It did not request public hearings.

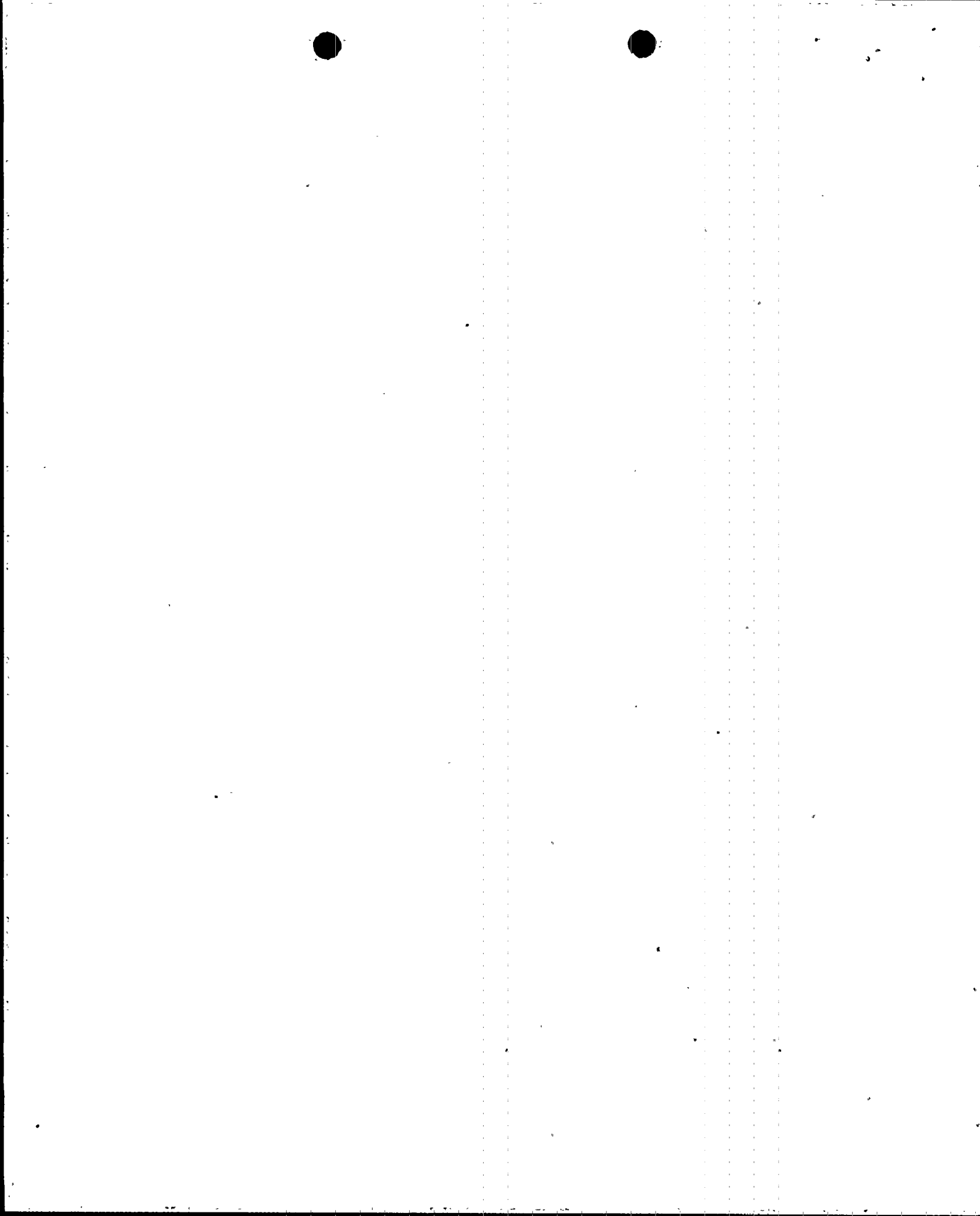
In answer to the first letter, the NRR staff informed the writer that when we receive an application regarding incineration from TVA, we expect to publish a notice in the Federal Register pursuant to 2.105 which would provide an opportunity for a public hearing on the proposal. The writer will also be sent a copy of that Notice. Action on the second letter is pending.

Is NRC approval required?

Yes. However, the NRR staff has only recently come to grips with the nature of that approval. Until quite recently, we have been discussing the TVA program with the licensee with the thought that the proposed changes would be considered as modifications of the reactor facility license. This was the context in which TVA presented its plans and is consistent with NRR practice in considering previous changes to low-level reactor waste systems. This type of treatment was accorded to an application filed in September, 1978 by Niagara Mohawk for adding an incinerator facility at Nine Mile Point (see SECY 79-383). However, we were advised on July 27, 1979 by Niagara Mohawk that the system proposed was being deferred pending reevaluation. Licensing action on the application is now in abeyance.

Under NRC regulations, changes in reactor facilities which do not involve a change in the license or technical specifications and which do not involve an unreviewed safety question may be carried out under the authority of 10 CFR 50.59 without NRC approval. In meetings with TVA concerning these waste system changes, we have been informed that TVA has concluded, using the procedures called for by the facility license, that the long-term waste storage facilities could be constructed under the authority of 50.59 without NRC approval, since the construction involved neither a change in the license or Technical Specifications nor an unreviewed safety

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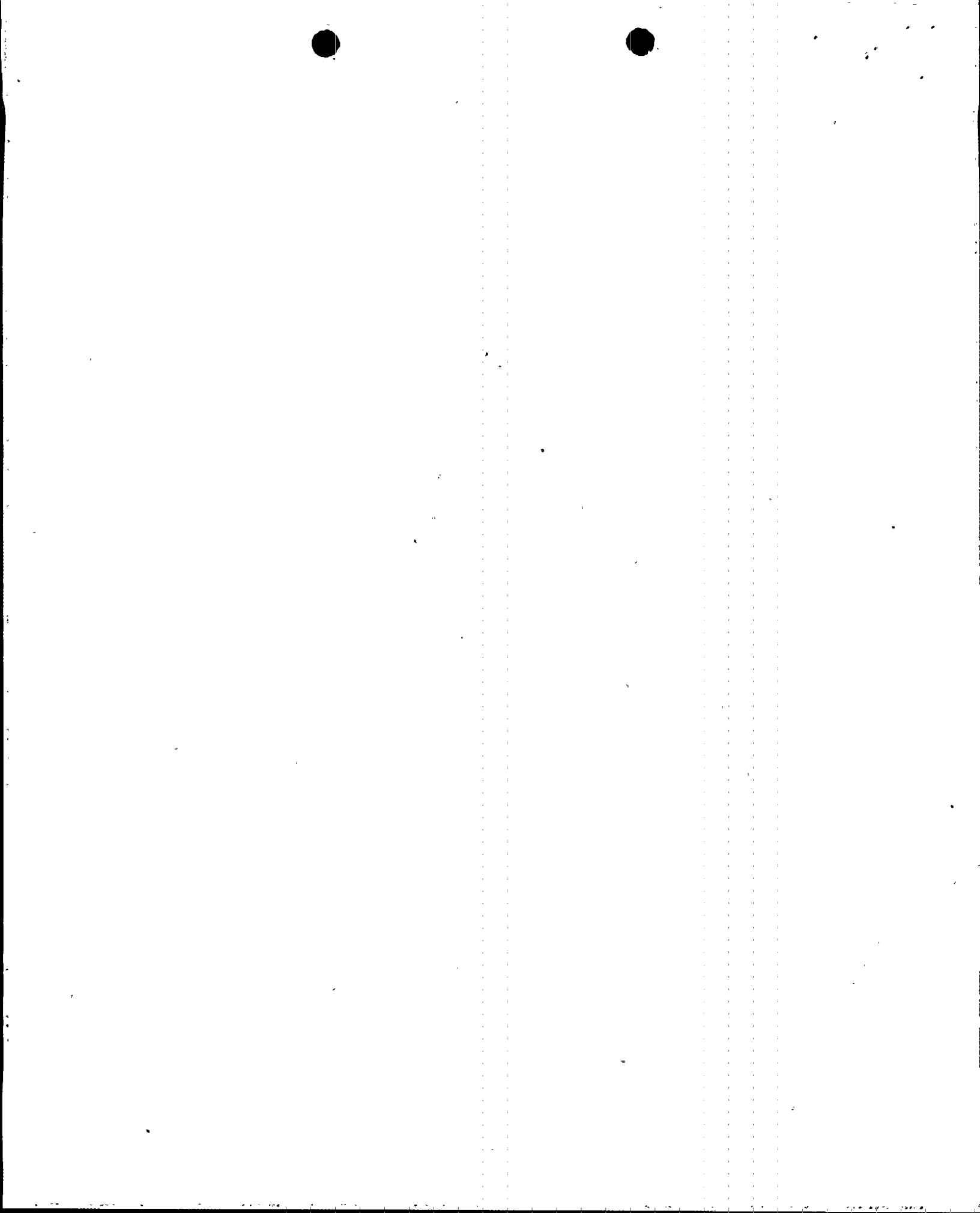
question. The staff has not obtained a copy of the supporting documentation, but as a result of our discussions with TVA, we have found no reason to challenge its position from a technical standpoint. TVA did indicate that it would seek NRC approval for the use of the new waste storage facilities, and that it would file an application early in the summer seeking an amendment to its reactor licenses to permit the use of the new storage facilities sometime after the construction is completed.

Subsequent to the meetings with TVA, the NRR staff has concentrated on the unusually extensive nature of the various changes in the low-level waste processing and storage system which are a part of TVA's program. As a result, NRR now believes that activities such as those proposed by TVA should not be considered for licensing under the reactor facility license, but rather under a separate Part 30 license in the same manner that would apply if they were located away from the reactor site.

At a reactor, some waste processing capability is needed to collect, process, and properly prepare solid waste materials for transfer to a licensed commercial waste disposal organization (including some storage capacity while awaiting transport). Such systems have been previously licensed as part of the reactor facility license as an activity ancillary to the operation of a reactor, and covered by the Price Anderson indemnity. These systems have sufficient interaction with and interdependence on the design of reactor systems that they are properly part of reactor operation and should continue to be licensed as such. However, activities such as those now proposed by TVA have little, if any, interaction with reactor operation and are more closely related and subject to policy decisions of the Office of Nuclear Materials Safety and Safeguards (NMSS). Thus, it now seems more appropriate as a policy matter to treat these types of activities as requiring separate by-product material licensing by NMSS. For these reasons, NRR has concluded that extensive new additions or expansion of waste systems at reactor sites to store or process solid low-level waste, such as proposed by TVA, should be licensed under 10 CFR Part 30, similar to the manner that the facilities would be licensed if they were located off a reactor site. Such additions/expansions would be generally defined to be extensive changes above and beyond that considered necessary for the operation of the reactor and which involve no significant interaction with reactor operation or reactor safety. Existing equipment previously licensed under 10 CFR Part 50 would remain licensed under Part 50. NRR is preparing a staff paper for Commission consideration in coordination with NMSS and OELD which would outline this policy and its implications in greater detail.

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This will include such issues as the impact of Part 30 licensing on Price Anderson indemnification, on relationships with Agreement States in which reactors are located (See 10 CFR 150.15), the departure from past precedent in facility licensing matters and differing procedural requirements.

With respect to the TVA plans, these would involve consideration of the requirements of 10 CFR Part 30, including Section 30.32(f). This provision requires an environmental report by the applicant filed 9 months prior to the commencement of construction, if the activity is one "which the Commission determines will significantly affect the quality of the environment..." The staff intends to consider and make a determination on this issue on a priority bases.

A decision in this case to consider licensing of the low-level waste system changes under Part 30 would not affect the opportunity for hearing by persons affected, although a Federal Register notice is not mandatory for actions other than reactor facility licenses or amendments or other actions covered by 10 CFR 2.105 and 2.106. However, the Commission may publish a notice of opportunity for hearing in connection with any license or amendment in accordance with 10 CFR 2.105(a)(4).

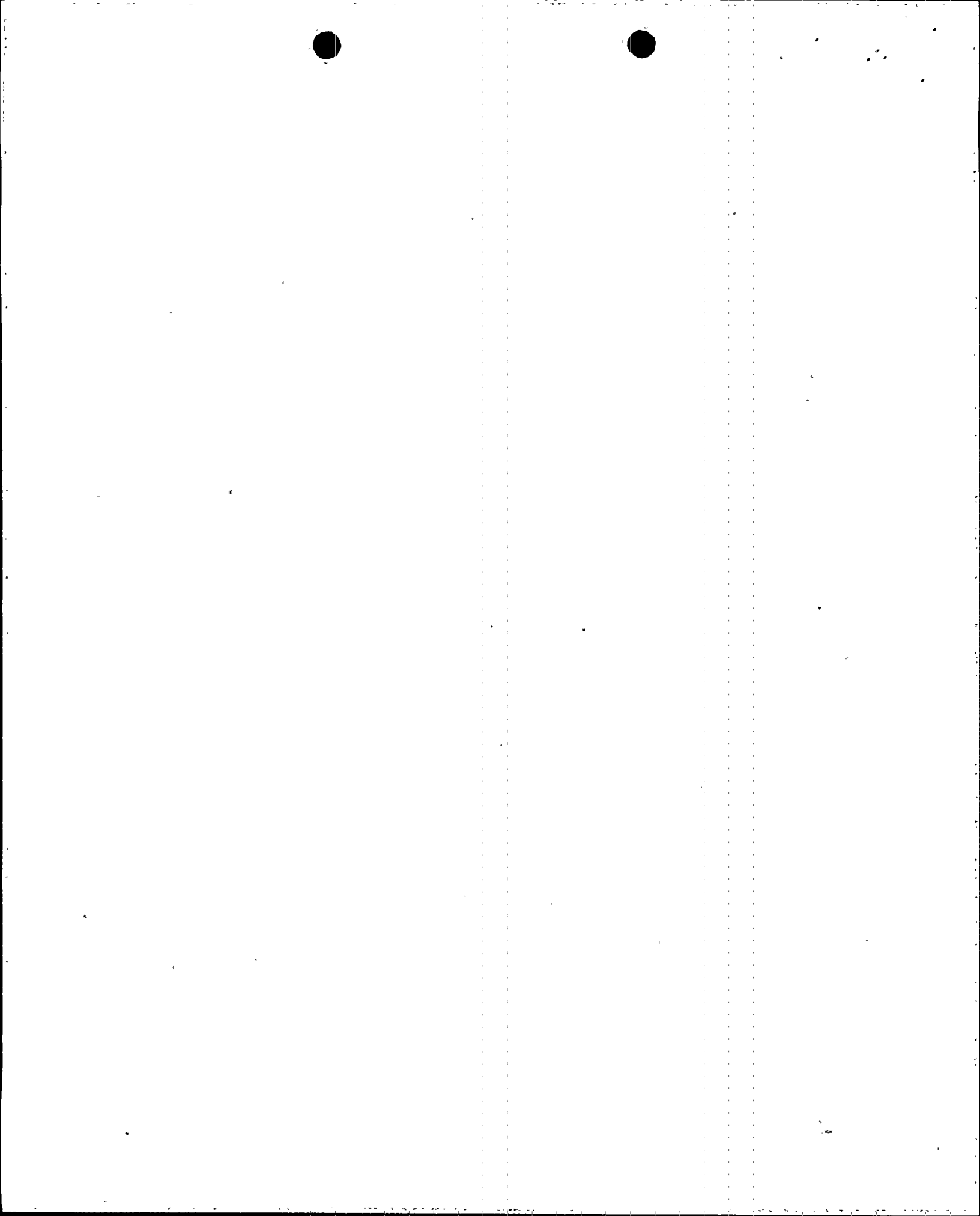
What actions has NRC taken?

Under our previous policy of licensing changes in low-level waste under 10 CFR 50, on March 17, 1980, NRR amended the licenses for Browns Ferry Units 1, 2 and 3 to authorize TVA to store low-level waste onsite for a period of up to two years. NRR has had two meetings with TVA in which their plans were discussed. NRR also has topical reports from two manufacturers of radwaste incinerators under review. According to TVA, it is likely that these two manufacturers will be the most probable responders to their future request for bids.

Coordination

NMSS concurs in principle that the proposed TVA activities may be licensed under 10 CFR 30. However, such licensing will be a significant change from current practice and the full impacts of this change have not been evaluated. Because of the precedential nature of any change applied to

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TVA Browns Ferry, we believe assumption of this responsibility by NMSS should await Commission consideration of the staff paper detailing the implications of licensing these facilities under Part 30. OELD has no legal objection.

Original Signed by
H. R. Denton

Harold R. Denton, Director 7/17/80
Office of Nuclear Reactor Regulation

Enclosure: As noted

cc w/enclosure:

OGC
OPE
SECY
J. Davis
V. Stello
H. Shapar

Distribution

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|-------------|-----------|--------------------|------------------|
| Docket | PPAS | RPurple | RJClark |
| ORB #2 | BSnyder | RTedesco | NSNorris |
| NRR Reading | BGrimes | GLainas | ECase |
| Local PDR | RVollmer | JOlshinski | HDenton |
| NRC PRD | DRoss | Atty, OELD | ECase |
| EDO Reading | SHanauer | GErtter (EDO-9107) | |
| WDircks | RMattson | AFerguson | <i>B. Hughes</i> |
| KCornell | DEisenhut | MJambour | |
| TRehm | TNovak | MStine | |
| NMSS | Tippolito | HDenton | |

*SEE PREVIOUS YELLOW FOR CONCURRENCES

ORB #2
*RJClark:mjf
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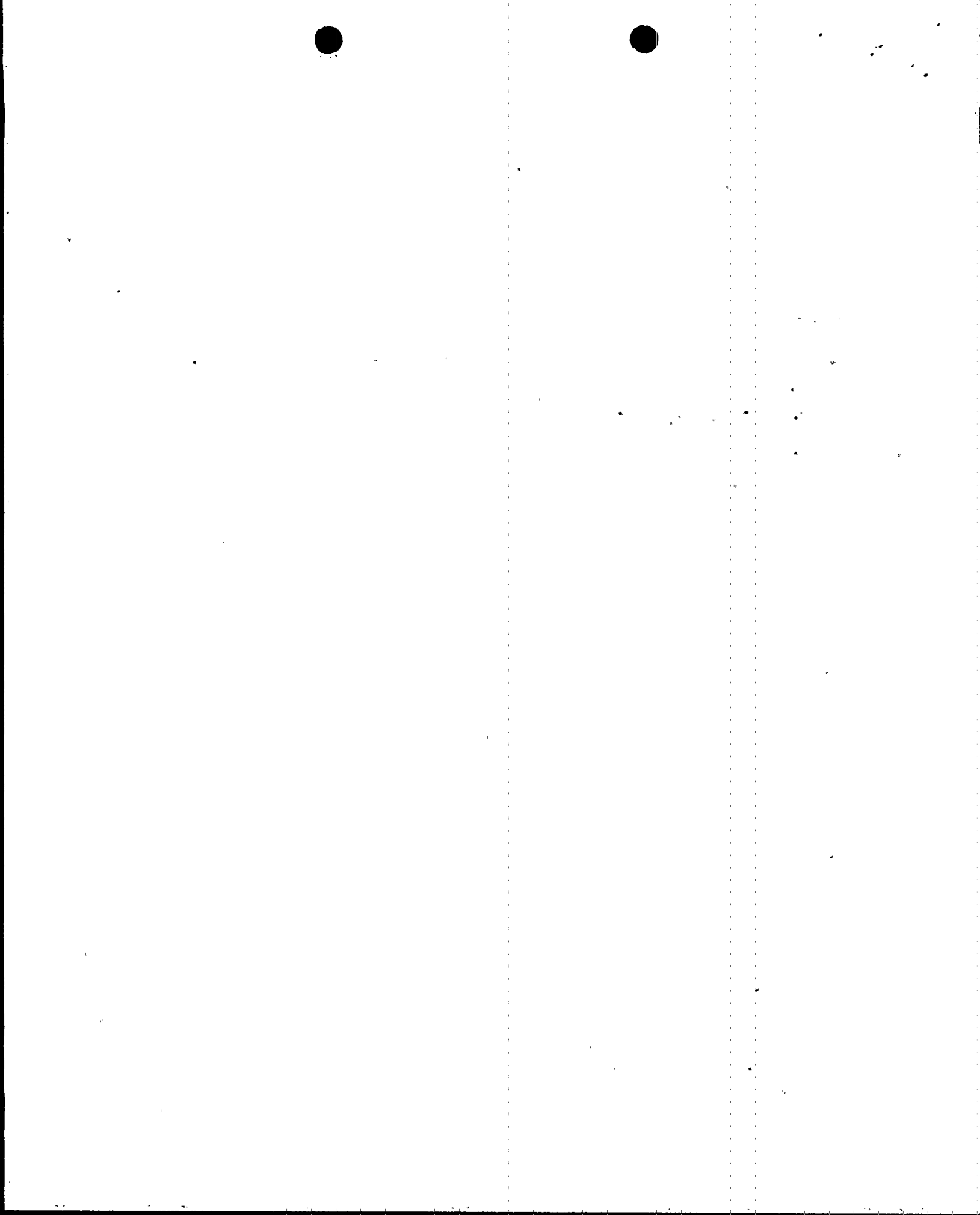
ORB #2
*Tippolito
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AD:OR
*TNovak
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*7/11/80 NMSS Memo
oral concurrences
included / sent to
with comments*

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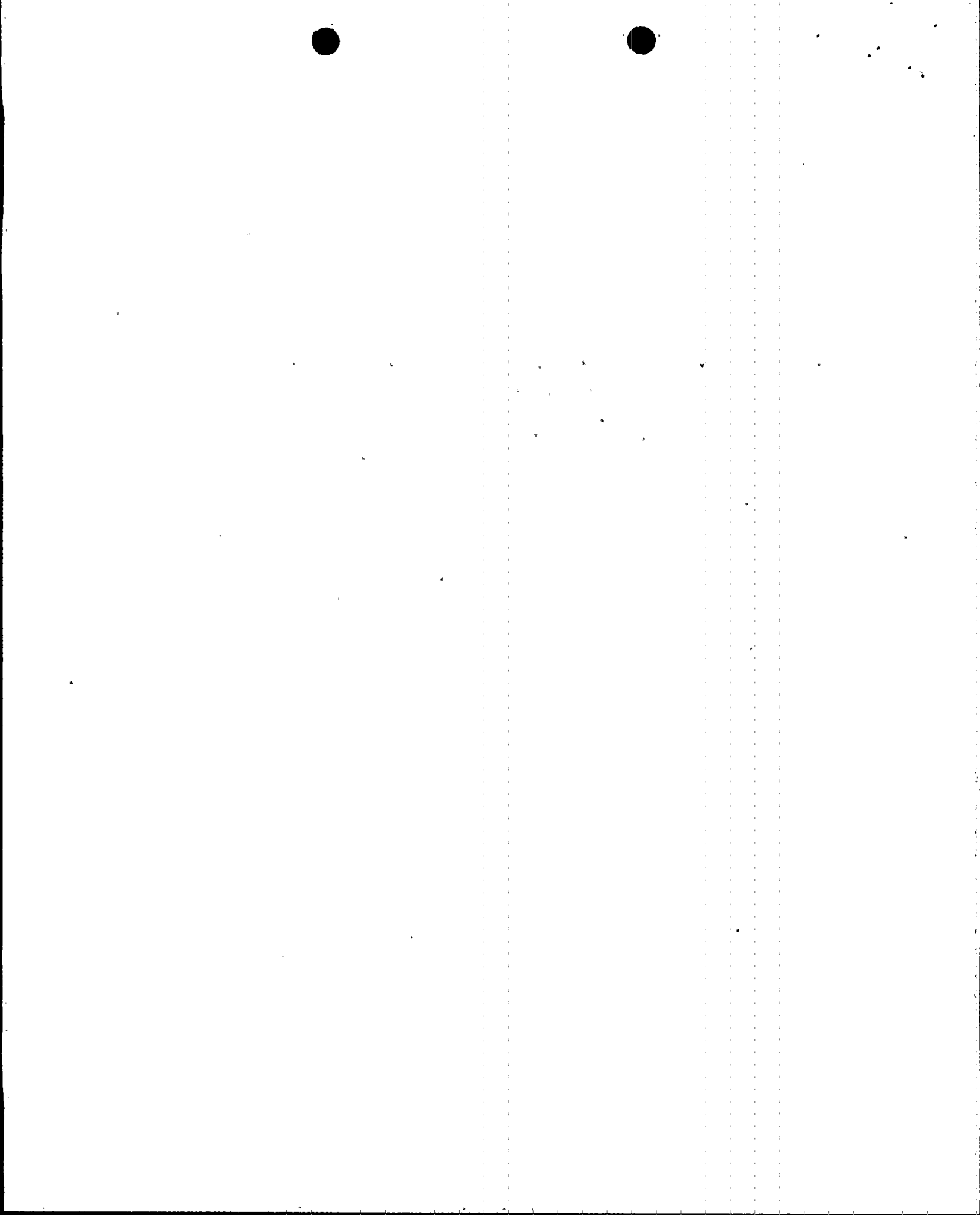
ENCLOSURE

The following is a detailed discussion of TVA's plans for low-level waste management at Browns Ferry and TVA's other nuclear facilities.

On January 4, 1980, TVA issued the attached press release in which TVA Board Chairman S. David Freeman announced that "TVA will begin immediately to install facilities to provide complete onsite storage for low-level radioactive waste at the Browns Ferry Nuclear Plant - and all its plants under construction." On January 16, 1980, we held a meeting with TVA to discuss this subject, during which we requested that TVA describe their overall plans for low-level waste management. By letter dated January 21, 1980, TVA advised us that "our ultimate objective is to provide for the onsite storage of all low-level radioactive waste generated by each of TVA's nuclear plants and to provide storage through the plant life. The plan for providing storage for all low-level radioactive waste from all TVA nuclear plants has the following three key points:

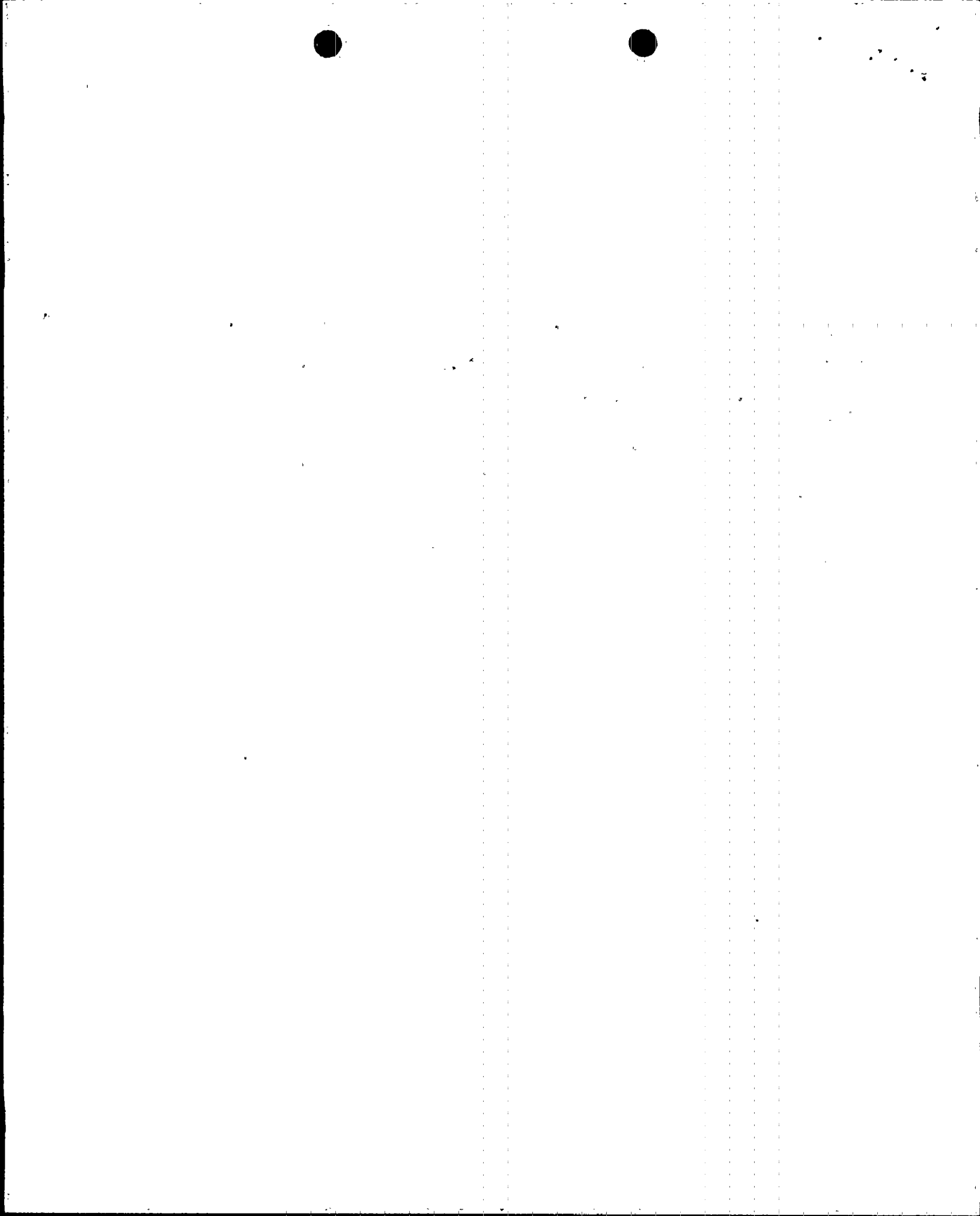
1. Design and construct temporary onsite storage facilities, if required.
2. Design and construct permanent (life of plant) onsite low-level radioactive waste storage facilities at each nuclear plant site.
3. Design and construct low-level radioactive waste volume reduction/solidification at each nuclear plant site."

The first step - design and construction of temporary onsite storage facilities has been completed. In response to TVA's application of January 21, 1980, on March 17, 1980, the staff amended the licenses for Browns Ferry Units 1, 2 and 3 to authorize TVA to store low-level waste onsite for a period of up to two years. The waste to be stored will be primarily dry, compacted trash with low specific activity. The waste will be stored in an existing building, located onsite, which has been modified by the addition of concrete curbs, enclosed sumps, steel grating shield walls, and additional security fencing. By the end of the two year period, TVA is required to remove all the metal drums and containers from the building. TVA is also committed to implement a concerted program to reduce the volume of radioactive waste generated at the Browns Ferry facilities. NRC approval of this modification was required because TVA's review, conducted in accordance with the requirements of 10 CFR 50.59, concluded that there was a possible unreviewed safety question (possible new location for radioactivity to enter the groundwater onsite). The staff prepared both a safety evaluation and environmental assessment on the temporary storage. We concluded that there was no significant environmental impact associated with the proposed action and that an EIA and negative declaration need not be published in connection with issuance of these amendments. Under the provisions of 10 CFR 50.59, TVA has also modified the condenser pullout area adjacent to the east wall of the Unit 3 turbine building to store up to 50 liners containing radioactive spent ion exchanger resin. To date, neither of these temporary storage facilities have been used. TVA has been able to ship all low-level waste generated at Browns Ferry to Barnwell, South Carolina for disposal.



To implement the long-range plans, TVA proposes to construct two facilities on the Browns Ferry site - a storage facility and a processing facility. The proposed storage building will be used only for storage of low-level waste which is drummed or packaged in the plant. Aside from handling the containers, there will be no processing or treatment of the waste in the storage building. The second building (processing facility) would be an addition to the existing Radwaste building.

The proposed storage facility would consist of 14 concrete modules. Estimated cost of the facility is \$24 million. TVA's schedule calls for completion of 4 modules by December 1980 and final completion of the facility by December 1982. The second building - the Radwaste Volume Reduction building - will be an addition to (and tied into) the existing radwaste facility. Plans are to start construction of the \$48 million addition in the summer of 1981 with completion scheduled for the summer of 1984. Included in this new addition will be space to house an incinerator. TVA plans to solicit bids on an incinerator in August 1980 and plans to submit an application pursuant to 10 CFR 20.305 for authorization to incinerate low-level waste at Browns Ferry. No date has been established for submission of this application.



TVA Moves to Provide Onsite Storage for
Low-Level Radioactive Waste at Nuclear Plants

TVA said today it will begin immediately to install facilities to provide complete onsite storage for low-level radioactive waste at the Browns Ferry Nuclear Plant--and all its plants under construction--after a South Carolina firm announced a reduction in the amount of material it will receive for storage.

TVA Board Chairman S. David Freeman said the agency "will provide sufficient onsite storage to take care of all low-level waste generated at its nuclear plants in a timely fashion."

Freeman said facilities for low-level waste storage would be in place at plants under construction by the time those units are ready to begin operation and that the necessary facilities will be installed at Browns Ferry to allow that plant to begin storing all its own low-level waste within the next 12 months.

Chem-Nuclear Systems, Inc., of Barnwell, South Carolina, notified TVA this week that it is reducing the agency's 100,000 cubic feet per year storage allocation by half beginning immediately. That planned reduction had been announced last fall but was not expected to go into effect until late 1981.

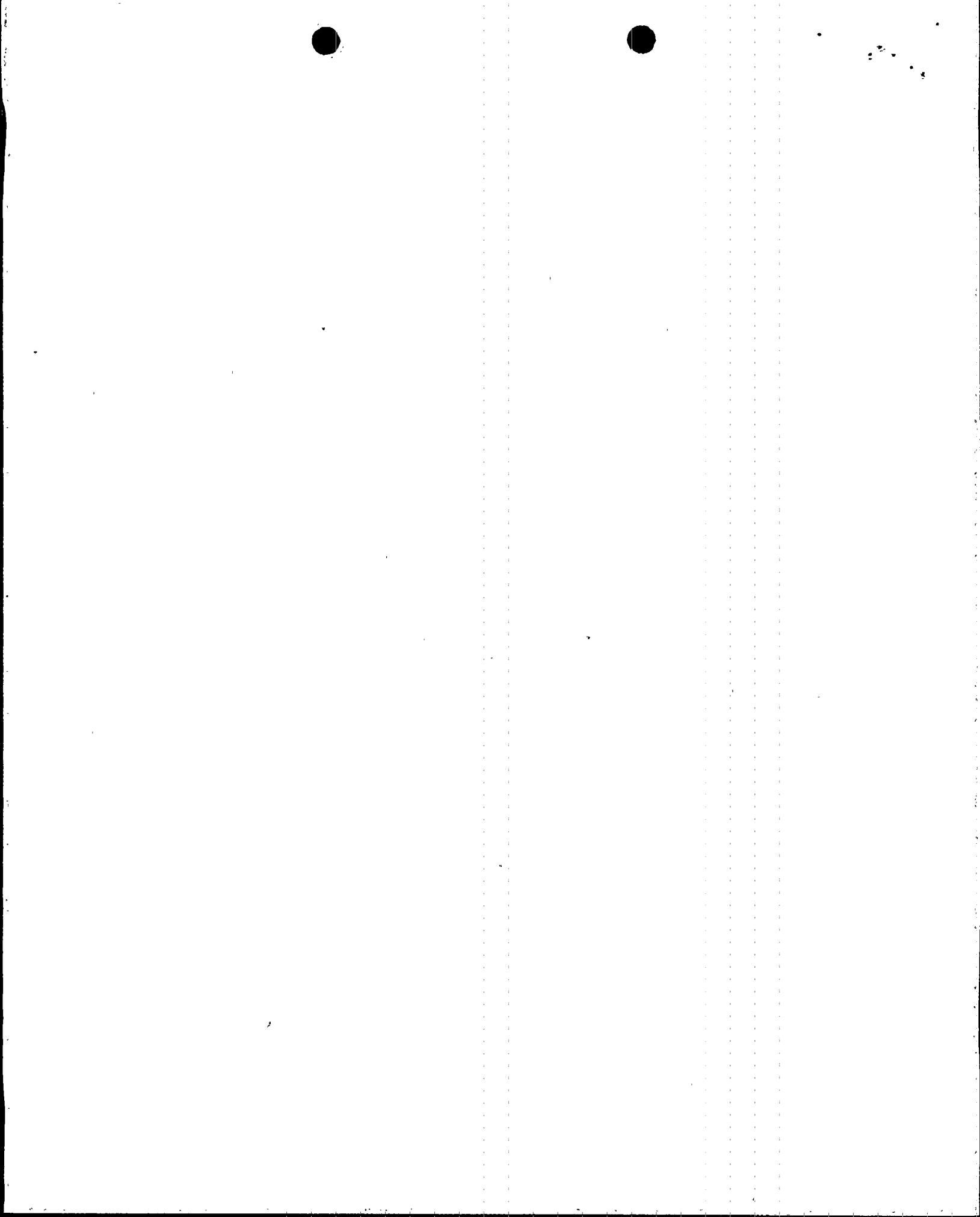
The company said an immediate reduction was necessary because of volume restrictions imposed in its State of South Carolina operating license.

TVA Manager of Power Hugh G. Parris said Browns Ferry currently has two months of storage available on-site, with the capability for promptly expanding that storage by an additional six months. Additional storage to allow TVA to store all low-level wastes generated at Browns Ferry will be provided through some combination of additional space within the plant and providing additional aboveground storage facilities on the plant site.

"These immediate measures will merely accelerate TVA's proposed plans for onsite storage of low-level wastes which were begun in 1978," Freeman said. "I believe it is imperative that TVA take strong and immediate measures on our own to provide for low-level waste storage at Browns Ferry. If we act quickly, we can avoid any interference with continued operation of the plant and eliminate dependence on disposal grounds operated by others." With this action, TVA now has a policy of onsite storage for all nuclear wastes.

Low-level radioactive wastes consist of solid materials that are used by employees during the normal course of plant operation. This includes mopheads, shoe covers, rags, tools, etc., which may become slightly contaminated during use and cannot be disposed of in normal plant trash. Low-level wastes also include resins which are used in water purification systems in the plant. These materials are carefully packaged in special containers and shipped by truck to a designated burial site, such as the Chem-Nuclear facility, for proper disposal.

In contrast, spent nuclear fuel from the reactor contains "high-level" radioactive waste. Spent fuel is not transported by TVA, but is stored in special underwater pools adjacent to each reactor at Browns Ferry.



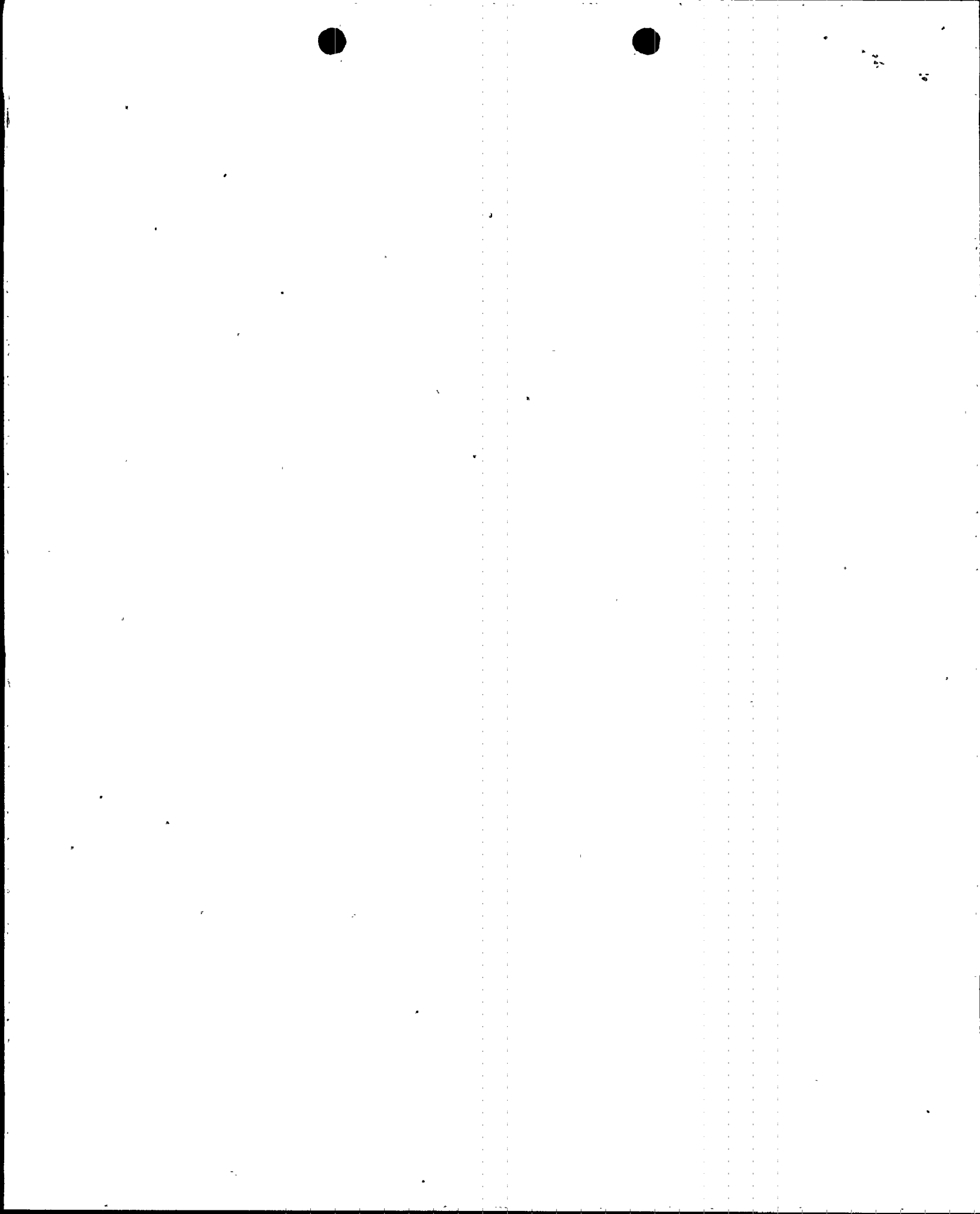
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JGDavis:bsp
7/10/80

cc: R. E. Cunningham
R. Browning

MEMORANDUM FOR: Edson G. Case
FROM: John G. Davis
SUBJECT: LOW-LEVEL WASTE MANAGEMENT AT BROWNS FERRY

I attempted to contact you Thursday pm but was unable to do so. The following represents the NMSS comments on the subject NRR paper:

- (1) As discussed, NMSS believes it preferable not to reply in detail to Bradford prior to the Commission paper which will be forwarded. The basis for this position is that the draft reply makes very positive statements regarding licensing under Part 30. We are not certain that all aspects of a decision to license under Part 30 have been evaluated. For example, on p. 3 of the draft, it states "... we now believe that activities such as those proposed by TVA should not be considered for licensing under the reactor facility licenses ...". Perhaps, we missed this in earlier drafts but we were under the impression these activities legally could be considered under either Part 30 or Part 50 and the decision was one of policy. If such activities now are considered only under Part 30 this may mean that a reactor application which initially includes such facilities would be considered both under Part 30 and Part 50. From a policy standpoint, it may be more efficient to proceed under Part 50 for such regulations.
- (2) NMSS is concerned above getting swept up immediately into a licensing action without sufficient resources or deliberation on the course of



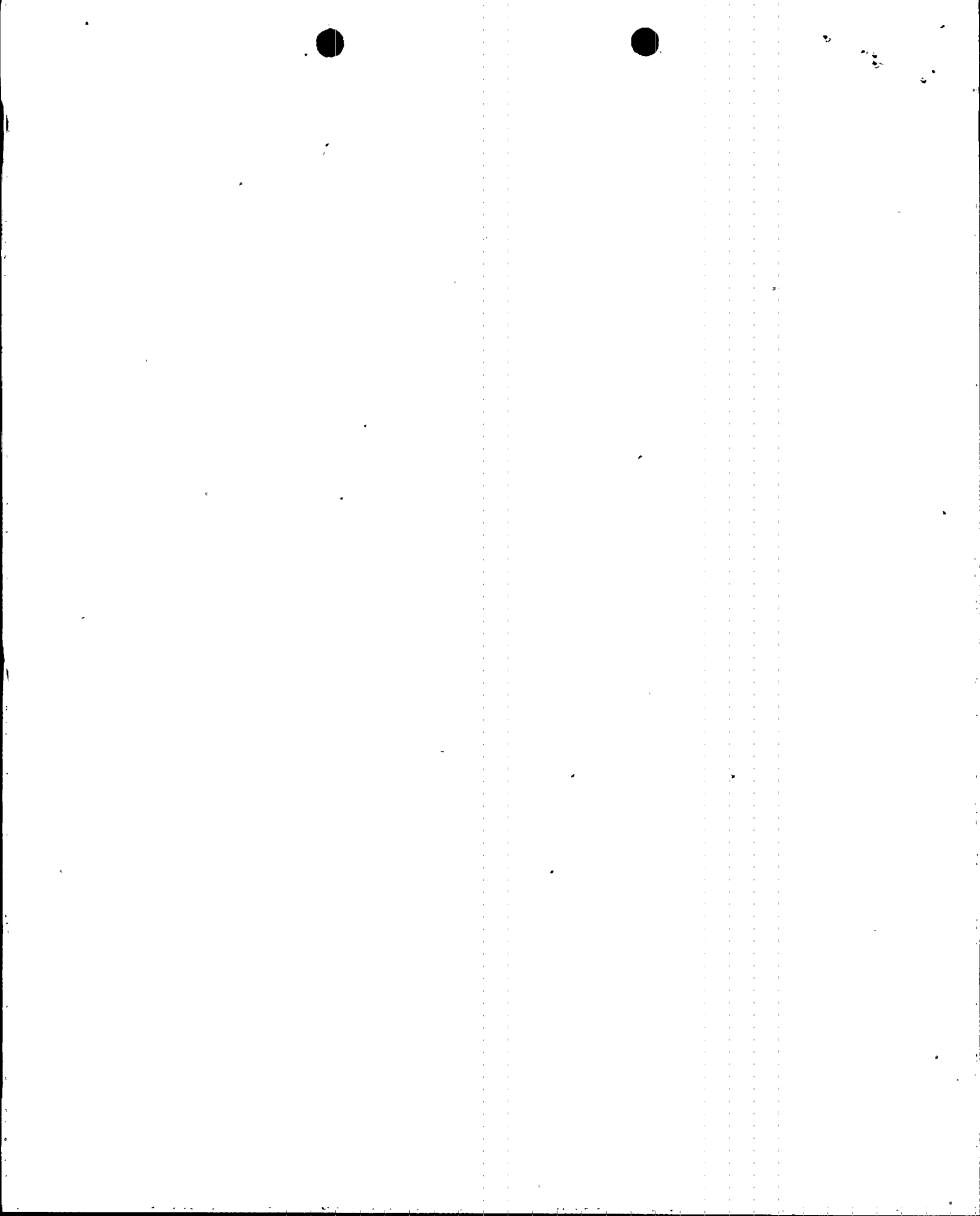
actions to be taken. For such facilities we have nothing comparable to a "standard review plan." We believe more deliberation is needed to more fully consider the impact of this shift in agency practice.

- (3) As we discussed, what is proposed represents a significant shift in agency practice--at least as significant as the movement of safeguards from NRR to NMSS. The paper (p. 3) identifies this shift "as a policy matter." We believe the Commission may desire to be involved in this change in policy.
- (4) The paper would require, in essence, immediate assumption by NMSS of this responsibility without prior determination of the interfaces between NMSS and NRR. We are concerned about defining the boundary between those activities licensed under Part 50 and those under Part 30. A more mundane question, for example, would be how NMSS approaches the licensee? As you know, previously, NRR has guarded the role of the NRR project manager so that contacts by NMSS are through the NRR project manager. We believe much more effort is needed to clearly define interfaces before licensing practices are changed.

I am not suggesting that NMSS not exercise this responsibility. I am suggesting more deliberation is needed before arriving at the positions expressed in the memorandum to Bradford.

With regard to the specific paper, NMSS prefers that it not be sent. If it is, we prefer that staff positions taken in the paper be clearly identified as those of NRR and under "coordination" the following NMSS comment be included:

"NMSS concurs in principal that those TVA activities may be licensed under 10 CFR 30. However, such licensing will be a significant change from current practice and the full impacts of this change have not been



Edson G. Case

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evaluated. Because of the precedent^{file} nature of any change applied to TVA Browns Ferry, we believe NMSS assumption of responsibility should await the evaluation necessary for preparation of the Commission paper detailing the policy of licensing under Part 30."

I won't be at work on Friday, 7/10. Dick Cunningham is aware of this matter.

With regard to participating with NRR (Phil Grant) in developing the staff paper, Ken Jackson, WM, and Peter Loyson, FC, will be the NMSS representatives.

John G. Davis

