

Nuclear

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September 26, 1986

TMI-2 Cleanup Project Directorate
Attn: Dr. W. D. Travers
Director
US Nuclear Regulatory Commission
c/o Three Mile Island Nuclear Station
Middletown, PA 17057

Dear Dr. Travers:

Three Mile Island Nuclear Station, Unit 2 (TMI-2)
Operating License No. DPR-73
Docket No. 50-320
Deep-Bed Filters In The DWCS

The purpose of this letter is to inform you of modifications being made to several knock-out canisters. These canisters are being modified for use as "deep-bed" filters in the Defueling Water Cleanup System (DWCS). The use of these "deep-bed" filters in the DWCS is intended to improve the clarity of the reactor vessel water.

The modifications being incorporated into the knock-out canisters include:

- o Cutting the existing inlet tube below the support ring,
- o Adding a 2" O.D. stainless steel pipe as an outlet tube,
- o Routing the outlet tube through the gap between two legs of the support spiders,
- o Sizing the support ring to accommodate the outlet tube, and
- o Extending the outlet tube down to within 1" of the bottom plate.

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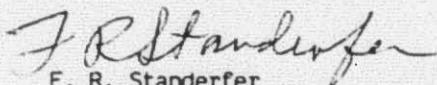
The bottom 12" of the extended outlet tube will have multiple 1/4" to 3/8" holes and will be covered with a 100 mesh stainless steel screen. The outlet tube will be attached to one (1) or more support spiders to prevent significant motion of the outlet tube during canister handling. These minor modifications are expected to have no adverse impact on the previous structural evaluations performed on the knock-out canisters. The canister designer is currently reviewing these modifications to confirm this. GPU Nuclear will inform you if any significant deviations to the previous structural evaluations are discovered.

Additionally, the filter media to be used in the modified knock-out canisters is diatomaceous earth (d.e.) and sand. The use of d.e. in the filter and knock-out canisters has been previously addressed in GPU Nuclear letters 4410-86-L-0063 dated April 14, 1986 and 4410-86-L-0104 dated June 30, 1986, which have been reviewed and approved by the NRC. The use of sand, which is coarser than d.e. is bounded by the analyses in the referenced documents.

Further, the differential pressure across the modified knock-out canisters will be limited to 100 psi. The DWCS and the defueling canisters are designed for operating pressures of 150 psig.

A conceptual drawing of this modification is attached for your information. The DWCS TER and the Defueling Canister TER will be updated if the "deep-bed" filters prove to be an effective means of reactor vessel water cleanup.

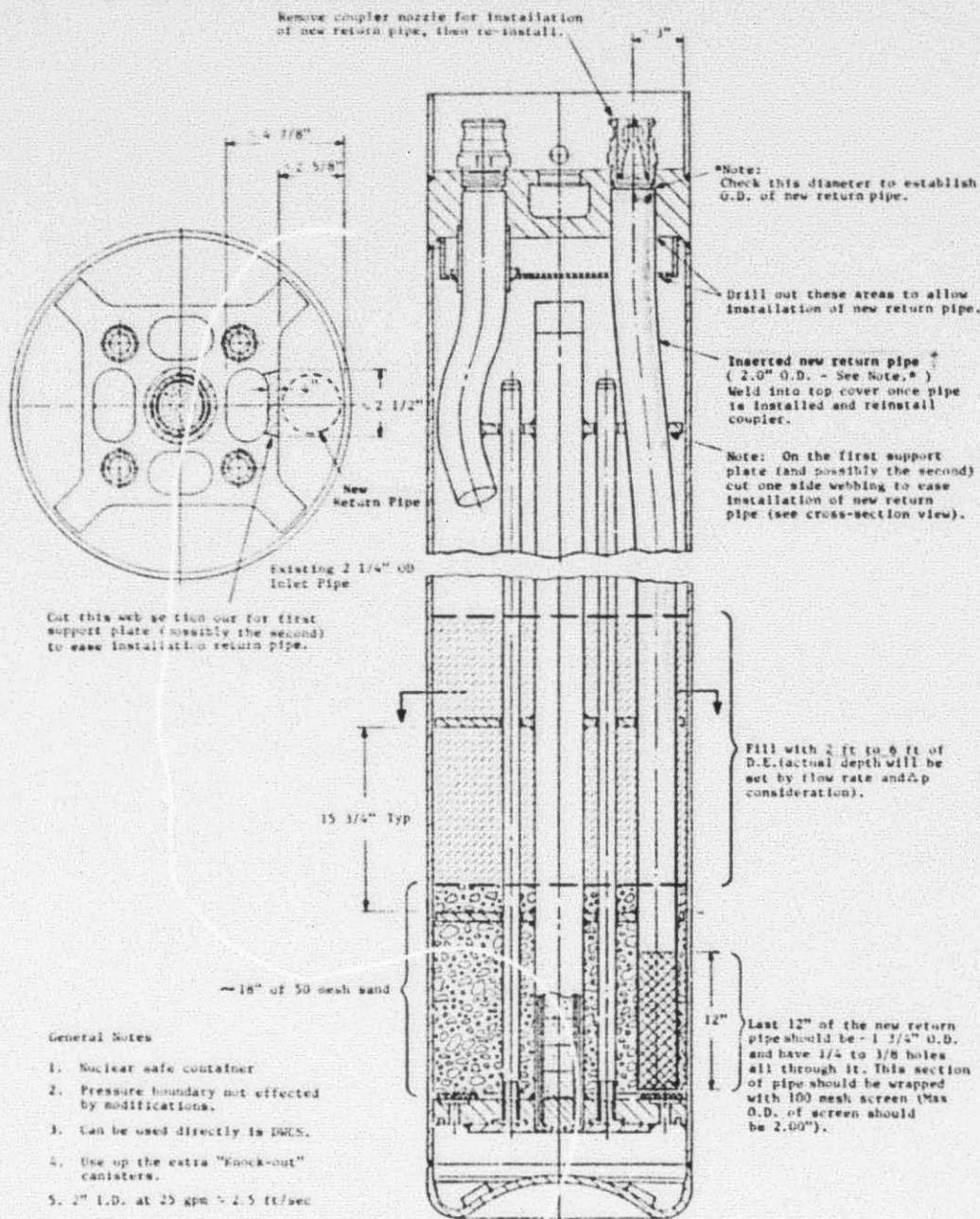
Sincerely,



F. R. Standerfer

Vice President/Director, TMI-2

FRS/RDW/eml



**CONCEPTUAL ARRANGEMENT FOR
CONVERSION OF "KNOCK-OUT" CANISTER
TO A D.E. FILTER WHICH CAN BE USED
TO CLEAN UP POOLS & RV**