TEMPORARY INSTRUCTION 2515/161

TRANSPORTATION OF REACTOR CONTROL ROD DRIVES IN TYPE A PACKAGES

CORNERSTONE: RADIATION SAFETY

APPLICABILITY: This TI applies to the following licensees: (1) all holders of operating licenses for nuclear power reactors and (2) any shutdown Part 50 licensees who are/were undergoing decommissioning activities during the selected time period, and for shipping the specific items, delineated by the TI objective.

2515/161-01 OBJECTIVE

The objective of this Temporary Instruction (TI) is to obtain site specific data to determine if: (1) the licensee has/had undergone refueling/defueling activities during CY2002 to present and (2) the licensee packaged and transported irradiated Control Rod Drive (CRD) mechanisms in DOT Specification 7A Type A packages (i.e. Specification 7A packages).

2515/161-02 BACKGROUND

The Nuclear Regulatory Commission (NRC) staff has recently become aware of a potential safety concern focusing on the packaging and transportation of control rod drive (CRD) mechanisms in DOT Specification 7A Type A packages. The CRDs are typically classed as Type A quantities for transportation (as defined in 49 CFR 173.403). Thus, per Department of Transportation (DOT) regulations, they are required to be placed in appropriate DOT Specification 7A Type A packaging for transport. Type A packages are not tested under accident conditions, but are required to be constructed and tested such that they can withstand typical shipping conditions normally associated with transportation of radioactive materials.

These DOT Specification 7A Type A packages (i.e. those utilized to ship irradiated CRDs) could have been have used by many licensees. This has given rise to the potential concern that some licensees may not be in full compliance with certain DOT/NRC regulations applicable to the shipment of DOT Specification 7A Type A packages. The information gathered from this inspection activity will provide assurance of licensee

compliance with these regulations.

2515/161-03 INSPECTION REQUIREMENTS

General

This is a two phase TI. Phase I is to be conducted utilizing regional inspection resources and is to be applied at every operating power reactor site and any shut down Part 50 licensee who are/were undergoing decommissioning activities.

Phase II is to be conducted utilizing regional inspection resources at those sites identified in Phase I as requiring additional effort as described in section 04.02 below.

04.01 PHASE I. Determine through interviews and record reviews if the licensee meets the following two criteria: (1) the licensee has undergone refueling/defueling activities during CY 2002 to present and (2) the licensee packaged and shipped irradiated Control Rod Drive (CRD) mechanisms in DOT Specification 7A Type A packages. If the licensee does not meet these two criteria, then report this as described in sections 05.01 and 05.03 below and do not conduct Phase II. If the licensee meets the above two criteria, then the inspector shall perform Phase II of the TI.

04.02 PHASE II. Using inspection and interviews the inspector shall examine the site specific records for the shipment(s) identified in Phase I. The inspector shall verify that the packages were suitable, by reviewing the required licensee documentation on file. The licensee shall show compliance with the NRC/DOT transportation requirements, in particular, the specific requirements of 49 CFR Parts173.412 and 173.415. The inspectors shall report the results of Phase I and Phase II of the inspection as described in section 05.

2515/161-04 GUIDANCE

04.01 DOT regulations require that each shipper of a Specification 7A package maintain, on file, written documentation of the tests and engineering evaluation or comparative data showing that the packaging complies with the specification. If the shipper of a Specification 7A package is not the original designer or user of that package, it is necessary for that shipper to obtain the package evaluation report data from the original supplier/user or to perform the tests himself and document the results. Further, if a shipper makes any changes to the packaging or its maximum authorized contents, from the description on the original test report furnished by another person (or organization), it will be necessary to perform and document a supplemental evaluation, addressing such changes and demonstrating that the package will continue to meet the appropriate performance requirements.

04.02 The requirement for the Specification 7A package documentation is that the results of how the package meets the applicable environmental and test conditions must be addressed. Inspectors may find some shippers furnishing and relying on test results and data extracted from several technical reports by the former agency, Energy Research and Development Administration (ERDA), entitled, “Certification of ERDA Contractors

Packaging with Respect to DOT Specification 7A Performance Requirements," Report MLM-2228, June 12, 1975, with one Supplement, (April 15, 1976) and MLM-2324 (October 8, 1976). A question may then arise about the sufficiency of the test data from these reports in any given case. Judgement will then have to be exercised in assessing whether the licensee's specific package falls within the parameters of the tests as reported, with respect to such aspects as maximum package weight tested, type of closure, tested content versus actual content, and content limitations.

04.03 The licensee's documentation should include an evaluation concluding how the package meets the Specification 7A package test requirements based on the recorded data, or any other independent package tests that have been performed. Inspectors should reject any rationale used by the licensee that the marking alone of "USA DOT 7A Type A" on the outside of the package is sufficient fulfillment of this requirement. Other requisite markings are included in 49 CFR Parts172.310 and 178.3

04.04 Any remaining questions or concerns over the sufficiency of test data or other licensee compliance with regulatory requirements shall be directed to the technical point of contacts listed in section 2515/161-08 below.

2515/161-05 REPORTING REQUIREMENTS

05.01 For Phase I, the inspectors shall document whether or not the licensee has/had undergone refueling/defueling activities during the selected time period and whether or not they have shipped irradiated CRDs in DOT Specification 7A Type A packages.

05.02 If Phase II is required, the inspector shall provide narrative and explanatory information, if warranted. Details of the Phase II inspection should be sufficient to allow for a thorough analysis of the resultant data.

05.03 The inspector shall document licensee compliance with the requirements of 49 CFR 173.412 and 49 CFR 173.415 in an inspection report. The inspection results, including findings, if applicable, shall be incorporated into Section 4OA5, "Other," of the resident inspector's integrated inspection report (i.e. quarterly inspection report). In addition, a copy of the TI inspection procedure results, which has been reviewed and approved by the Regional Branch Chief/Supervisor, shall be forwarded, via email, to the NMSS/SFPO/TSS office, Attention: David Pstrak (dwp1@nrc.gov).

05.04 Any findings identified during this inspection will be processed and documented in accordance with NRC Inspection Manual Chapter (IMC) 0612, "Power Reactor Inspection Reports." Significance of inspection findings should be evaluated in accordance with applicable appendices of IMC 0609, "Significance Determination Process." Any noncompliance resulting from this inspection will be evaluated and documented in accordance with NRC Enforcement Policy (NUREG -1600) and Section 3.12 of the NRC Enforcement Manual.

2515/161-06 COMPLETION SCHEDULE

Phase I (and Phase II, if required), shall be completed for each site within one year after

the TI is issued.

2515/161-07 EXPIRATION

This TI will expire two years from the date of issuance.

2515/161-08 CONTACT

For technical support regarding the performance of this TI and other emergent issues, contact David Pstrak via email at DWP1@NRC.GOV or telephone at 301-415-8486 or Ronald Schmitt via email at RVS@NRC.GOV or telephone at 301-415-4082.

2515/161-9 STATISTICAL DATA REPORTING

All direct inspection effort expended on this TI is to be charged to 2515/161 for reporting by the STARFIRE system with an IPE code of SI.

2515/161-10 ORIGINATING ORGANIZATION INFORMATION

10.01 Organizational Responsibility. This TI was initiated by the Plant Support Branch of the Division of Inspection Program Management (NRR/DIPM/IPSB).

10.02 Resource Estimate. The estimated direct inspection effort to perform this TI is estimated to be 4 - 8 hours per site.

10.03 Training. No specialized training is needed to perform inspection requirements in this TI beyond basic training for inspectors (i.e. as specified in IMC 1245, "Inspector Qualifications"). However, if additional, clarifying support is needed during the inspection, notify the point(s) of contact listed above in section 08.

2515/161-11 REFERENCES

NRC Inspection Manual, Inspection Procedure 86740, “Inspection of Transportation Activities”

END