INSTITUTIONALIZING CONCERN REGARDING SAFETY ISSUES IDENTIFIED IN SELECTED PAST GENERIC COMMUNICATIONS

2600/012-01 OBJECTIVE

This temporary instruction (TI) is intended to investigate certain safety issues at NRC-regulated fuel cycle facilities that were originally identified in past NRC generic communications (i.e., bulletins, generic letters, and information notices) to determine if they continue to pose risks to workers or the public. The inspection activity is to be conducted in coordination with other regularly scheduled safety inspections at the affected sites, to minimize any adverse impact on already-committed inspection resources.

2600/012-02 APPLICABILITY

This TI applies to licensees and certificate holders for fixed site nuclear fuel cycle facilities authorized to possess and use source material and/or special nuclear material. The TI consists of multiple tasks that may apply to some or all fuel cycle facilities, as detailed in the attached Appendix A.

2600/012-03 BACKGROUND

In March 2002, a reactor pressure vessel head at the Davis-Besse Nuclear Power Station (DBNPS) was discovered to have been dangerously corroded by boric acid due to penetration leakages. In response to this event, the Nuclear Regulatory Commission formed a lessons learned task force. Among the findings of the task force were that the event was preventable and that the NRC did not follow up sufficiently to verify the effectiveness of the various actions licensees had been requested to take in response to repetitive generic communications related to the boric acid corrosion issue. In response to one of the recommendations of the task force, Headquarters and Regional inspection staff performed a study of past generic communications that had been addressed to operators of NRC-regulated fuel facilities to determine if the issues that necessitated issuance of these generic communications have been adequately institutionalized in licensees' procedures, process configurations, or licensing support functions, and in NRC inspection or licensing review guidance. Based on the results of this study, certain issues were identified as requiring onsite inspection effort to determine if the risks remain and if further actions are needed to address them.

2600/012-04 INSPECTION REQUIREMENTS

Perform the inspection tasks in Appendix A for the facilities specified. All inspection tasks in Appendix A need not be performed on the same visit to an applicable facility.

04.01 Examine licensee records and equipment to determine whether the safety issue identified in the listed generic communication is applicable to the licensee's current process configuration.

04.02 If required, determine if appropriate licensee procedures or controls are in place to address the safety issue described in Appendix A for the subject issue.

Inspectors should plan to conduct the inspection tasks described in this TI while conducting routine inspections at the applicable licensee facilities. While preparing to conduct a routine, core inspection at a facility, the inspector should determine if any of the issues described in the listed generic communications apply at the facility in the area to be inspected, (e.g., fire protection, operations, etc.). Whenever possible, the inspector should plan the inspection such that the determination of the appropriateness of a licensee's action regarding an issue in the generic communication will result from the inspection activities performed as part of the conduct of the core inspection.

2600/012-05 GUIDANCE

General Guidance

05.01 Inspectors should determine if the safety issue identified in the listed generic communication is applicable to the licensee's current process configuration by review of existing documentation within NRC, discussions with other NRC staff, and discussions with licensee personnel prior to the inspection. Completing this preparation prior to the inspection will reduce the amount of effort needed during the inspection.

05.02 In most cases, the determination that the licensee has taken appropriate action to address the specific safety issue described in the generic communication can be accomplished by a review of documents, discussions with licensee personnel, and direct observations of activities, equipment or facilities. The inspector should contact his or her branch chief or other NRC staff for assistance in those cases where the inspector cannot make a determination as to the appropriateness of the licensee's action.

After completion of an inspection in which a generic communication issue was assessed, the inspector should brief his or her branch chief on the results. In addition, the inspector should discuss lessons learned regarding those actions or assessment methods that were most successful in the completion of the task versus those that were not successful. These results and lessons learned can affect the efficiency and effectiveness of the inspection of the same issue at other facilities.

2600/012-06 REPORTING REQUIREMENTS

Inspection findings for all inspections conducted under this TI will be documented in routine inspection reports for core inspections.

Following issuance of the inspection report, the lead inspector also will notify the staff coordinator for this TI (Lance Lessler, TSG/FCSS/NMSS, 301-415-8144 or LJL@NRC.GOV) of the completion of one or more inspection tasks in the TI for that inspection, with a reference to the specific report number, to enable centralized documentation and further processing of the issue(s) investigated under the TI. Also included with this notification should be a recommendation as to whether the issue needs further followup or can be terminated.

2600/012-07 COMPLETION SCHEDULE

The guidance in this TI will remain effective until all the listed inspection tasks in Appendix A have been performed for each applicable site. All listed inspection tasks are expected to have been so inspected by the end of Fiscal Year 2006. Listed inspection tasks are expected to be performed by those inspectors who regularly perform core inspections for the technical areas appropriate for each of the listed inspection tasks during regularly scheduled core inspections. It should not be necessary for inspectors to make visits to sites for the sole purpose of performing one or more of the listed inspection tasks.

2600/012-08 EXPIRATION

The direction in this TI will remain in effect until September 30, 2006, at which time it is expected that each issue identified by this TI will have been inspected at each affected facility.

2600/012-09 CONTACT

Questions regarding the technical aspects of this TI should be addressed to:

Lance Lessler
Technical Support Group
Division of Fuel Cycle Safety and Safeguards, NMSS
(301) 415-8144
E-mail: LJL@NRC.GOV

2600/012-10 STATISTICAL DATA REPORTING

For RITS reporting, only the portion of a routine inspection devoted to the procedures in this TI should be charged to this TI. The remainder of the time for a routine inspection should be charged in the usual manner to the inspection report number for the affected facility.

2600/012-11 ORIGINATING ORGANIZATION INFORMATION

11.01 Organizational Responsibility. The Technical Support Group, FCSS/NMSS, initiated this temporary instruction.

11.02 Resource Estimate. The resources expended to complete the tasks for corresponding to the issue(s) in each specific generic communication will vary greatly, but should not require more than six hours of effort for any of the communications for a particular facility. If it takes greater than six hours, the inspector should contact his or her supervisor to determine if some adjustments need to be made to the inspection program.

11.03 Training. The guidance provided in this TI generally conforms to current inspection practice, normally expected to be within the capabilities of fuel cycle facility inspectors, having undergone currently required training. No additional training is required specific to the requirements of this TI.

END

Appendix A
List of Inspection Tasks for TI-2600-012

(Documents listed in blue underline font indicate hyperlinks to Internet-based sources)

Applicable Facilities (Estimated Resources per Facility)	Source Generic Communication/ Inspection Task Description
Fire Protection Inspections	
All fuel cycle facilities	**IN-02-024, "Potential Problems with Heat Collectors on Fire Protection Sprinklers."** 1. Determine if heat collectors are part of fire protection system design. 2. If heat collectors are used, determine if current placement of heat collectors is consistent with practices recommended in referenced Information Notice and is supported by documented engineering evaluations. 3. Determine if procedures are in place to account for problems in placement of heat collectors, as described in referenced Information Notice, where possible relocation or reconfiguration of system is concerned.
All fuel cycle facilities	**IN-99-028-S1, "Recall of Star Brand Fire Protection Sprinkler Heads (Supplement 1)"** 1. Determine if recalled sprinkler heads are in use or in stores, ready for use. 2. Determine if there are procedures in place to prevent use of the recalled sprinkler heads as described in this IN.
All fuel cycle facilities	**IN-00-007, "National Institute for Occupational Safety and Health Respirator User Notice: Special Precautions for Using Certain Self-Contained Breathing Apparatus Air Cylinders"** 1. Determine if any respirators in use at the facility are affected by this IN, and, if so, 2. Verify that each of the seven safety precautions specified in the IN are in place to reduce the user's risk of serious injury or death.
All fuel cycle facilities	**IN-99-007, "Failed Fire Protection Deluge Valves and Potential Testing Deficiencies in Preaction Sprinkler Systems"** 1. Verify that licensee procedures for cleaning, maintaining, and testing fire protection deluge valves are in accordance with manufacturers' instructions, with regard to use of abrasives, lubricants, and solvents, to prevent the specific types of deficiencies described in this IN. (This should apply to all brands of valves that may have performance characteristics similar to the particular brand referred to in this IN.) 2. Verify that licensee applications of fire protection deluge valves are installed to operate at line pressures consistent with manufacturers design specifications.

Applicable Facilities (Estimated Resources per Facility)	Source Generic Communication/ Inspection Task Description
Nuclear Criticality Safety Inspections	
NFS (and any other facilities known to have CO_2-charged fire suppression systems)	**IN-99-005, "Inadvertent Discharge of Carbon Dioxide Fire Protection System and Gas Migration"** 1. Review procedures and controls for preventing inadvertent discharge of CO_2 to ensure that such discharges do not threaten loss of control of SNM through incapacitation of personnel.
All fuel cycle facilities	**IN-99-030, "Failure of Double Contingency Based on Administrative Controls Involving Laboratory Sampling and Spectroscopic Analysis of Wet Uranium Waste"** 1. Review administrative controls involving waste sampling and testing to ensure that the failure of such controls is unlikely, and that they are broad enough that the analyst will clearly understand the safety significance of the documented controls, especially pertaining to the uniformity of preparation of samples for spectroscopic analysis.
Chemical Safety Inspections	
Honeywell	**IN-99-003, "Exothermic Reactions Involving Dried Uranium Oxide Powder (Yellowcake)"** 1. Determine if appropriate procedures and systems are in place to prevent or mitigate potential exothermic reactions with yellowcake received at the conversion facility.
All fuel cycle facilities	**IN-90-070, "Pump Explosions Involving Ammonium Nitrate"** 1. Determine if there is a potential at the facility for explosions in process equipment involving the unintended accumulation or concentration of potentially explosive compounds and mixtures, such as ammonium nitrate, through mechanisms similar to those described in the IN. 2. Determine, where such a potential exists, if licensee procedures and controls are sufficient to prevent the kind of explosions described in the IN. 3. Determine, where such a potential exists, whether this situation is considered in the licensee's ISA.
Radiation Safety Inspections	
All fuel cycle facilities	**IN-95-051, "Recent Incidents Involving Potential Loss of Control of Licensed Material"** 1. Determine if current procedures, and the way they are being implemented, for maintaining control and accountability of licensed material at FC facilities, are sufficient to make security incidents similar to those reported in the IN unlikely.

Applicable Facilities (Estimated Resources per Facility)	Source Generic Communication/ Inspection Task Description
Emergency Preparedness Inspections	
All fuel cycle facilities	**IN-89-047, "Potential Problems With Worn or Distorted Hose Clamps on Self-Contained Breathing Apparatus"** 1. Determine if a random selection of SCBA equipment have worn or distorted hose clamps that could cause the equipment to fail. 2. Determine if licensee procedures include periodic or occasional checks of hose clamps on SCBA to prevent inadvertent use of defective SCBA equipment during an emergency.
All fuel cycle facilities	**IN-86-024, "Respirator Users Notice: Increased Inspection Frequency for Certain Self-Contained Breathing Apparatus Air Cylinders"** 1. Determine if licensee uses air cylinders of the type reported in the IN. 2. If so, determine if the licensee provides for the greater frequency of inspections called for in the IN.
Management Organization and Controls	
All fuel cycle facilities	**IN-89-003, "Potential Electrical Equipment Problems"** **1. Review licensee's ISA and select at random several items of electrical equipment that are IROFS. Verify from schematics and other documentation that they fail in a safe mode.**
All fuel cycle facilities	**IN-87-033, "Applicability of 10 CFR Part 21 to Nonlicensees"** 1. Examine licensee procurement documents for safety-grade equipment to determine if they require contractors to comply with 10 CFR Part 21 notification requirements. (An example of the importance of this may be seen in IN-86-077, where contractors who use computer programs to provide design and analysis products to licensees may not be required to report the fact that errors were found in the computer programs they had used to produce the designs or analyses, when they are notified of such errors by the computer software vendors.)
GDPs, Honeywell	**IN-87-026, "Cracks in Stiffening Rings on 48-inch-diameter UF6 Cylinders"** 1. Determine if licensee has 48-inch UO_2 cylinders corresponding to those described in this IN. 2. If so, verify that the licensee has procedures in place to examine these cylinders for cracks in their stiffening rings and to handle and dispose of them accordingly, if cracks are found.

Applicable Facilities (Estimated Resources per Facility)	Source Generic Communication/ Inspection Task Description
Management Organization and Controls (continued)	
All fuel cycle facilities	**IN-86-077, "Computer Program Error Report Handling"** 1. Determine if licensees have adequately arranged to be notified of errors that may be reported in the software they or their contractors use for design and analysis work on criticality or other safety-related systems. 2. Determine if any such software error notices were received directly or indirectly from software vendors, and whether the licensee took action to determine if any licensee safety- or SG-related systems were adversely affected by such notifications.

Facility ID Key:

GDPs	Gaseous Diffusion Plants (Paducah, Portsmouth)
Honeywell	Honeywell Specialty Chemicals, Inc., Metropolis, IL
NFS	Nuclear Fuel Services, Inc., Erwin, TN