ATTACHMENT

EXPLANATION OF CHANGES IN REVISION 3 OF GGNS PCP

Revision 3 of the Grand Gulf Process Control Program (PCP) was performed at the request of station Radiation Control staff and Quality Programs staff to better define some terms used, and to update the document with some new methods for processing radioactive waste for burial. Those organizations, along with Radiological & Environmental Services, determined that the changes did not reduce the overall conformance of the solidified waste product to existing criteria for solid wastes, because most of the changes are editorial in nature, and, although some new processing options are included, none of the changes affect the current methods for processing radioactive waste for burial.

It was determined by Radiological & Environmental Services staff, Grand Gulf Radiation Control staff, and the Grand Gulf Plant Safety Review Committee that the changes in revision 3 of the PCP would not degrade any station safety systems or reduce the margin of safety of any station operating parameters.

Detailed information to support the rationale for the changes and the determination that the changes did not reduce the overall conformance of the solidified waste product to existing criteria for solid wastes is provided below.

TABLE OF CONTENTS

- o Item E - deleted section on "Packaging Requirements" since the subject is addressed in other parts of the PCP, and is controlled by approved station procedures (as described in Section B) which include pertinent regulatory requirements. The inclusion of specific packaging requirements in the PCP is redundant and unnecessary. Therefore, conformance to existing criteria for solid wastes is not reduced by the change.

LIST OF EFFECTIVE PAGES

- o changed revision number

A. Introduction

- o Paragraph 1, Sentence 1 - editorial change: added the word "radioactive" to describe waste addressed by the PCP, as opposed to the other kinds of waste generated at GGNS. Added the words "e.g. oil, oily sludge, EHC fluid, glycol" to give examples of the kinds of liquids being addressed by the PCP. Deleted the word "oil" from the examples of wet solids, since most oils used at the station are liquids. These editorial changes are for clarification, and do not change or reduce conformance to existing criteria.

- o Paragraph 1, Sentence 2 - added this new sentence to describe a new method of preparing some radioactive wastes for burial, namely volume reduction at an offsite vendor facility. The end product of volume reduction (e.g. incineration) must still conform to existing standards for solid waste disposal.

- Paragraph 1, Sentence 3 - editorial change: relocated this sentence from Paragraph 2 to maintain subject consistency in Paragraph 2.

- Paragraph 2, Sentence 1 - editorial change: deleted the words "Grand Gulf Nuclear Station" since the acronym "GGNS" is defined in Paragraph 1, Sentence 3.

- Paragraph 3, Sentence 1 - editorial change: relocated this sentence from Paragraph 1 to maintain subject consistency in Paragraph 3 concerning the processing of wet solids. Added the words "powdered and bead" to describe the types of resins which are processed for burial.

  Added the word "vitrification" to include a new technology for preparation of resins for burial, which is expected to be in use within a few years. Vitrification (or glassification) could solidify resins in a much more stable matrix than the current dewatering or solidification, and would significantly reduce their burial volume.

  As with existing processing methods (e.g. solidification) this process must either have an approved NRC Topical Report, or the PSRC must ensure the contractor's final waste form for burial complies with applicable regulations. Therefore, there is no reduction in conformance with existing criteria.

- Paragraph 3, Sentence 3 - editorial change: deleted the word "polyethylene" since that is not the only type of HIC (high integrity container) used at GGNS. Deleted the words "Dewatering is performed" from the former Sentence 3 and combined the words "according to vendor's procedures" with the new Sentence 3 to eliminate unnecessary words.

- Paragraph 3, Sentence 4 - added this new sentence to describe new options for processing resins for disposal, i.e. by vitrification at a vendor facility or by use as loose fill material in packages of supercompacted waste. (see discussion of Paragraph 3, Sentence 1 above.)

- Paragraph 3, Sentence 5 - added the words "for dewatering, solidification or vitrification" to define which contractor PCP topical reports must be approved by the NRC to ensure compliance with 10CFR20, 10CFR61, and 10CFR71. Changed "accepted" to "approved" to more appropriately describe the results of NRC review of a topical report.

- Paragraph 4, Sentence 1 - reworded this sentence to describe new disposal option for radioactive liquids, i.e. incineration. Changed the word "will" to "may" to clarify that these are options for disposal of radioactive liquids. As with existing processing methods (e.g. solidification) this process must either have an approved NRC Topical Report, or the PSRC must ensure the contractor's final waste form for burial complies with applicable regulations. Therefore, there is no reduction in conformance with existing criteria.

Included the words "EHC fluid, glycol" to add these materials to the definition of "radioactive liquids", since these wastes may be generated in the future.

- Paragraph 4, Sentence 2 - editorial change: added this sentence to clarify that solidification is an option for disposal of radioactive liquids and wet solids, vs incineration.

- Paragraph 4, Sentence 3 - editorial change: reworded this sentence to clarify that there are other options for solidification of radioactive liquids and wet solids besides onsite solidification, i.e. offsite solidification at a licensed vendor facility.

- Paragraph 4, Sentence 4 - added the words "for incineration or solidification" to define which contractor topical reports must be approved by the NRC to ensure compliance with 10CFR20, 10CFR61, and 10CFR71. Changed the word "accepted" to "approved" to more appropriately describe the results of NRC review of a topical report. These changes stipulate that compliance with existing criteria for solid wastes must be maintained for these processes. Deleted the words "U.S. Nuclear Regulatory Commission" and substituted "NRC" since the acronym "NRC" is defined in Paragraph 3.

- Paragraph 5 - added this new paragraph to describe the requirements for packaging and shipping of radioactive waste to an offsite vendor facility for incineration, solidification or vitrification. The final form of the waste for burial must still conform to existing standards, whether these processes are performed onsite or at an offsite vendor facility.

  Included the stipulation that the offsite processing facility will take title to the waste, and ensure that the waste meets all applicable requirements for disposal. This stipulation means that the vendor is responsible thereafter for the ultimate disposition of the waste, and for ensuring that the final form for burial conforms to existing criteria for solid wastes.

B. Administrative Controls

- Paragraph 1, Sentence 1 - editorial change: relocated this sentence from Section A, Paragraph 1 since the subject (compliance with federal and state regulations and disposal site criteria) concerns administrative controls.

- Paragraph 1, Sentence 2 - added this sentence to state that adherence to established procedures for processing radioactive waste for burial is required, whether the procedures are Grand Gulf station procedures or contractor procedures. This will help ensure that appropriate controls are in effect for processing the waste while it is under Grand Gulf control.

- Paragraph 2, Sentence 1 and 2 - editorial change: joined these sentences together (formerly in separate paragraphs) into one paragraph, since they both pertain to the intent and use of written instructions.

- Paragraph 2, Sentence 2 - editorial change: changed the word "Directives" to "Procedures" since "Directives" usually means a higher tier set of instructions than implementing procedures, to which this sentence refers.

- Paragraph 3, Sentence 1 - editorial change: reworded this sentence to add PSRC on approval cycle for contractor procedures, consistent with Section A, Paragraphs 3 and 4. Added the words "for onsite processing" to specify which procedures are to be reviewed. Deleted "Chemistry/" from the title "Chemistry/Radiation Control Section" to reflect the current organization title.

- Paragraph 3, Sentence 2 - changed the word "screened" to "approved" to correctly state the meaning that changes to contractors' procedures for onsite radioactive waste processing will be approved - not just screened - by the Radwaste Operations Section and Radiation Control.

  Deleted "Chemistry/" from the title "Chemistry/Radiation Control" to reflect the current organization title.

  Changed the word "forwarded" to "Screened for forwarding" so that procedure changes of a minor nature (i.e. administrative changes) will not necessarily have to be approved by the PSRC; instead, the Radwaste Operations and Radiation Control sections will review and approve minor administrative changes. Since any changes involving process controls or monitoring, media formulation or proportions, or determination of acceptable final product for disposal will be reviewed and accepted by the PSRC there is no reduction in conformance to existing criteria.

  Changed the phrase "to PSRC for review" to "to PSRC for review and approval" to reflect the requirement for PSRC approval of significant changes in contractors' procedures.

- Paragraph 3, Sentence 3 - program enhancement: added this new sentence, per Quality Programs' request, to require reviews of contractors' procedures to be documented and maintained as QA records.

- Paragraph 4, Sentence 1 - reworded this sentence, as requested by Radiation Control staff, to delete specific references to types of information to be documented on each batch of processed waste; i.e. "source of waste, date processed, processing parameters, physical and chemical characteristics, dose rates, contamination levels and other". This information is already required by approved Radiation Control or contractor procedures to be documented on each batch of processed waste. The procedures are controlled in accordance with Section B of the PCP; therefore, there is no reduction in conformance with existing criteria.

- Paragraph 4, Sentence 3 - program enhancement: added this new sentence, per Quality Program's request, to require that information on each batch of processed waste be maintained as QA records.

C. Waste Streams

- o Editorial change: revised the list of waste stream names to clarify the source of wastes to be processed. These are changes in name only. No waste streams were deleted from the sources of wastes to be processed.

- o Added "Contaminated Waste Oil" as a waste stream, since this type of waste has been generated in the past and more is expected in the future. The addition of this waste stream maintains conformance to existing criteria.

- o Paragraph 2, Sentence 2 - added this new sentence to include the contingency for processing wastes which are not part of normal radioactive waste streams, but which are generated from time to time, e.g. EHC fluid and glycol.

D. Conditioning of Waste and Sampling for Verification of Solidification

- o Paragraph 1, Sentence 1 - program enhancement: added the words "container in a" for clarity to specify how many samples must be taken to verify solidification of each batch of liquid waste. This actually increases the number of samples from one in every tenth batch of waste to one in every tenth container in a batch (a batch could have many containers that get solidified, e.g. drums). This change was made at the request of Radiation Control staff.

- o Paragraph 1, Sentence 2 - editorial change: deleted "Chemistry/" from the title "Chemistry/Radiation Control Superintendent" to reflect the current title.

- o NOTE - added this note to define a "batch" for clarification as requested by Radiation Control staff and Quality Programs staff.

- o Paragraph 2, item d) - replaced the words "most stable billet" with "maximum practical compressive strength" as requested by Radiation Control staff and Quality Programs staff. Those words were taken from the NRC Branch Technical Position on Waste Form (5/11/83), section C2.b. This changes the intent of the statement so that addition of unnecessarily large proportions of solidification media are no longer required, as explained in the note following the statement.

- o NOTE - added this note to clarify the objective of testing the solidified matrix for stability. The words were taken from the NRC Branch Technical Position on Waste Form (5/11/83), section C2.b. The range of stability could theoretically extend from the "minimum acceptable compressive strength" of 50 psi to the "most stable billet" which would be 100% solidification media and 0% waste material. The determination to be made for each batch of waste to be solidified is: how much higher than the minimum acceptable compressive strength should we seek, realizing that higher strengths will require more solidification media? That determination will be

made by Radiation Control staff during the solidification process and will be based on the cost-effectiveness of the proportions of solidification media, while ensuring that the final product for disposal conforms to existing criteria for solid wastes.

- o Paragraph 2, item e) - added the words "an acceptable" to qualify "solidified billet" as requested by Radiation Control staff and Quality Programs staff. This is consistent with the intent of the above NOTE concerning the stability of the final solidified material.

- o Paragraph 3, Sentence 1 - editorial change: deleted the words "a representative sample will be obtained and" to remove unnecessary words. The intent, of course is to obtain representative samples of miscellaneous wastes to ensure they are processed to the same quality standards as normal waste streams. But this paragraph also references the preceding paragraph on sampling, which includes a narrow definition of a "batch", i.e. that it is a homogenous mixture, thus representative sampling is ensured.

- o Paragraph 4, Sentence 1 - program enhancement: added the words "producing the maximum practical compressive strengths" as requested by Quality Programs staff. This is to ensure the final solidified material meets the standards agreed to by the contractor.

- o Paragraph 5, Sentence 1 - program enhancement: added the words "producing the maximum practical compressive strengths" as requested by Quality Programs staff. This is to ensure that the entire batch of waste material is of uniform quality and meets applicable standards.

E. Packaging Requirements

- o Deleted this section, as requested by Radiation Control staff, because requirements for packaging radioactive waste for transport and burial are specified in applicable regulations and are outlined in approved Radiation Control procedures. (See discussion of changes under "Table of Contents".)

F. Sampling for Verification of Curie Content

- o Paragraph 1, Sentence 1 - program enhancement: added the words "container in a" to clarify how many isotopic analyses must be performed on a batch of waste, as requested by Radiation Control staff. This is consistent with the requirement in Section D on sampling for verification of solidification. (See Section D, Paragraph 1, Sentence 1).

- o Paragraph 1, Sentence 2 - editorial change: deleted "Chemistry/" from the title "Chemistry/Radiation Control Superintendent" to reflect the current title.

- o Paragraph 2, Sentence 1 - editorial change: retained this sentence from the former Section E, Paragraph 3 because it specifies why isotopic and curie content must be determined when packaging waste for burial.

- Paragraph 2, Sentence 2 - editorial change: changed the term "dose rate conversion" to "dose-rate-to-curie conversion" to correctly describe how an estimate of the radioactivity content of a package may be determined.