




**Sonny Goldston/SRNS/Srs**  
12/09/2008 10:23 AM

To Jeannette Hyatt/SRNS/Srs@Srs, Jyh-Dong  
Chiou/SRNS/Srs@Srs, John Gilmour/SRNS/Srs@Srs,  
Marshall Looper/SRNS/Srs@Srs, Dennis  
cc Robert Petras/WSRC/Srs@srs

bcc

Subject Fw: Included in WIR Citation: Canned Evaporator Feed Pump  
Remnants Generated in 299-H Mtg 12-8-08

History:  This message has been forwarded.

We have agreement from DOE that the Evaporator Feed Pump Remnants Generated in 299-H described in the email below are included within WIR Citation HLW-SUP-99-0060 and can be appropriately disposed under the Citation.

I want to thank Bob Petras for his excellent work in preparing the documentation and supporting our meetings on this subject.

This should allow LWO working with M&O to package/characterize this waste as Mixed LLW for storage and disposal.

Thanks

Sonny

Sonny Goldston

Office: 803-557-6314

Cell : 803-507-1310

Pager 803-725 7243 #11659


----- Forwarded by Sonny Goldston/SRNS/Srs on 12/09/2008 10:11 AM -----



**Terrel Spears/DOE/Srs**  
12/08/2008 05:37 PM

To Sonny Goldston/SRNS/Srs@Srs

cc Howard Pope/DOE/Srs@Srs, Jonathan  
Simmons/DOE/Srs@Srs

Subject Re: Included in WIR Citation: Canned Evaporator Feed Pump  
Remnants Generated in 299-H Mtg 12-8-08 

Sonny,

Based on our discussion today, I concur with your conclusion below that the remnants described are included within WIR Citation HLW-SUP-99-0060 and can be appropriately disposed under the citation.

Terry

Terrel J. Spears  
Assistant Manager for Waste Disposition Project  
Savannah River Operations Office  
U.S. Department of Energy  
(803) 208-6072

Sonny Goldston/SRNS/Srs



Sonny Goldston/SRNS/Srs

12/08/2008 03:07 PM

To Howard Pope/DOE/Srs@Srs, Terrel Spears/DOE/Srs@Srs,  
Jonathan Simmons/DOE/Srs@Srs

cc Robert Petras/WSRC/Srs@Srs, Daniel Skiff/WSRC/Srs@Srs

Subject Included in WIR Citation: Canned Evaporator Feed Pump  
Remnants Generated in 299-H Mtg 12-8-08

In our meeting today among Terry Spears, Howard Pope, Mike Simmons and Sonny Goldston, we agreed that the Canned Evaporator Feed Pump Remnants Generated in 299-H as a result of decontamination of the Feed Pump assembly were included in the previously approved Citation determination for Waste Incidental to Reprocessing (HLW-SUP-99-0060). The Citation Attachment 4 includes "Decontamination Media and Decontamination Solutions" and "Remote Handling Devices and Processing Support Equipment" as approved categories. The Feed Pump Remnants are generated as a result of decontamination of the feed pump assembly resulting in dissolved remnants consisting of electric motor windings, electrical feed wiring, and small quantities of metal fines that collect in the bottom of the decontamination tank. The electric pump motor is processing support equipment installed in the HLW tank ventilation spaces and is not designed to contain HLW materials nor is it designed to contact HLW materials. The motor is never in the HLW nor does it come into contact with HLW material during operation of the feed pump. The motor windings, wiring, and metal fines that remain after deconning were never in HLW and were only in the vapor space of the tank comparable to the ventilation systems components. This equipment is comparable to motors, blowers, fans, and ventilation system components since they have comparable or less radioactivity. Motors, blowers, fans, and ventilation system components are listed in the previously approved Citation Determination for Waste Incidental to Reprocessing (HLW-SUP-99-0060) under "Remote Handling Devices and Processing Support Equipment". Since the pump itself completely dissolves by submersion in concentrated nitric acid in a soak tank, no HLW can remain in the equipment since the equipment no longer exists as a piece of equipment. Some of the fines that are left from the complete destruction by dissolution of the pump, and any HLW it may have contained are transferred back to Tank 43 during the draining and replenishment of the nitric acid solution in the soak tank. Therefore, these remnants described above can be disposed as LLW under the approved Citation (HLW-SUP-99-0060).

Please provide by return email your concurrence with this conclusion.

Thanks,

Sonny

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More details are contained in the information below:

The LWO Tank Farm Evaporator Systems handle high-level (low-heat) waste produced by processes at various facilities. The waste is removed from the feed tank by the use of a feed pump assembly and eductor (Attachment 1). The feed pump assembly transfers waste from the feed tank to the evaporator pot. The feed pump, the pump motor, and associated piping are located inside a can that is inserted into the feed riser and

connected to the eductor piping. Only the eductor is inserted into the HLW, the entire feed pump assembly that is located inside the can is suspended above the HLW inside the tank riser. The feed pump is a single-stage, vertically mounted, centrifugal, wet-pit pump, and is driven by a 20-hp electric motor. There are five canned evaporator feed pump" assemblies maintained by 299-H to support both the 2F and 2H Evaporator Systems.

The feed pump assembly consists of a carbon steel pump, stainless steel valving, and internal piping/connectors that are designed to support the processing of the liquid waste material and actually transfer HLW and thus have had HLW inside of them. The remainder of the assembly components consisting of the housing (can), valve actuators, electric motor, wiring, etc., are not designed to contain HLW materials nor are they designed to contact HLW materials and they do not contact HLW materials during operation of the feed pump. The feed pump can, valving, piping, actuators, and connectors are made of 304-stainless steel to facilitate decontamination and are reused during rebuilding of the feed pump assembly. The balance of the assembly consists of commercially available items not designed for nuclear service or aggressive decontamination by submersion in concentrated nitric acid in a soak tank.

Prior to rebuilding, the entire feed pump assembly is immersed in a soak tank for up to one year where any soluble supernate waste and the carbon steel components (volute, impeller, motor frame, core, shaft, brushes, bearings etc.) dissolve. The soak tank is drained and refilled multiple times during the soak process to maintain ALARA with the spent decon solution being jetted back to Tank 43 in H-Tank Farm. The feed pump can, valving, piping, actuators, and connectors that actually contained HLW are not dissolved in the soak tank and are used to rebuild the feed pump assembly. What remains of the actual feed pump after decontamination are remnants consisting of electric motor windings, electrical feed wiring, and small quantities of metal fines that collect in the bottom of the decon tank.

The electric motor is processing support equipment installed in the HLW tank ventilation spaces and is not designed to contain HLW materials nor is it designed to contact HLW materials. The motor is never in the HLW nor does it come into contact with HLW materials during operation of the feed pump. The motor windings, wiring, and metal fines that remain after deconning and are included in the approved Waste Incidental to Reprocessing Citation because the electric motor windings were never in the HLW, are decontamination media, and were only in the vapor space of the tank. This equipment is comparable to motors, blowers, fans, and ventilation system components since they have comparable or less radioactivity. Motors, blowers, fans, and ventilation system components are listed in DOE Order 435.1 and the approved Citation Determination as meeting Citation requirements.

Some of the metal fines are from the pump itself, which did transfer HLW and thus did have HLW inside of the pump volute during a transfer. Since the pump (volute & impeller) completely dissolve by submersion in concentrated nitric acid in a soak tank, no HLW can remain in this equipment since the equipment no longer exists as a piece of equipment. More accurately some of the fines that are left from the complete destruction of the pump, and any HLW it may have contained are clearly transferred back to Tank 43 during the draining and replenishment of the nitric acid solution in the soak tank. In the current situation, it is clear in the case of the metal fines that the pump is not just deconned, it is completely dissolved and destroyed and thus, cannot contain any, much less significant amounts of residual HLW. Therefore, these remnants can be disposed as LLW under the approved Citation Determination.

Sonny Goldston

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Howard Pope/DOE/Srs





**Howard Pope/DOE/Srs**

12/03/2008 07:04 AM

To Robert Petras/WSRC/Srs@srs, Sonny  
Goldston/SRNS/Srs@Srs

cc

Subject Fw: Meeting with Spears - MOVED

fyi

Howard L. Pope  
Senior LLW Program Manager  
Programs Division  
803-208-6218  
Pager 803-725-7243, 14130

----- Forwarded by Howard Pope/DOE/Srs on 12/03/2008 07:03 AM -----



**Kimberly Ridenour/DOE/Srs**

12/02/2008 02:32 PM

To Howard Pope/DOE/Srs@Srs

cc

Subject Meeting with Spears - MOVED

Due to a conflict, I moved your meeting on Citation Waste to 12/8 at 9am. Let me know if that doesn't work.

Kim Ridenour  
Waste Disposition Project  
803-208-6054, pager 18318  
803-208-6441 fax