

**Date:** February 13, 2001

**To:** R. Bouie, P Vanderwall - (PFS)

**From:** R. Dortwegt, S. Sharma - (ME/ASD)

**Subject:** DI Water Make-up, Polishing and Degassifier Systems in Bldg. 450

This memo is to propose a formal transfer of responsibilities for DI water make-up, polishing, and the degassifier systems (in Building 450) from ME(ASD) to PFS by March 1, 2001. A meeting was held on January 17, 2001 to discuss issues related to this transfer of responsibilities with G. Kailus and P. Vanderwall.

The 1994 Memorandum of Understanding between APS and PFS (MOU) states that, for building 450, "This building and all equipment within the building is controlled by PFS. PFS will operate and maintain all equipment and systems upon completion of all start-up and commissioning activities."

Since 1993, responsibility for outside services for DI water makeup and polishing systems has been handled by ME (ASD). It was recognized that the original systems were inconvenient to service, did not provide high levels of safety and reliability required by the APS, and did not envision regulatory restrictions now required by governing environmental bodies. The makeup and polishing systems have since been modified and have provided a reliable and convenient supply of DI makeup water. Furthermore, since the dissolved oxygen is much lower now, the need for outside regeneration of the polishing system has been dramatically reduced. These systems have been on line since early 1999 and provide virtually uninterrupted service. A cost comparison between the old and new systems is given in the attached table.

In 1997, ME(ASD) undertook steps to understand copper corrosion occurring in technical components of the APS. It became clear that one of the primary causes of this corrosion was dissolved oxygen in DI water. Further work resulted in the finding that the degassifier system as originally installed in Building 450 was at least partially ineffective and undersized.

The degassifier has since been modified such that its performance and reliability is no longer in question. It has been operating successfully since July 1998 and PFS operators now routinely operate the system without supervision. Procedures for these systems have been prepared and, after approval, will be posted to ASD's Procedure page on the APS Worknet.

There was some discussion in the January 17 meeting on the **make-up DI water contract**, and the **oxygen sensors** needed to monitor the performance of the degassifier. The ME (ASD) Group will retain the responsibility for these two specific items for another year and work with PFS to resolve any cost or technical issues. In as much as these items are required to operate the DI water system reliably and within specifications, PFS should eventually be responsible for them as per the MOU of 1994.

cc: G. Kailus  
J. Noonan

# SUMMARY OF CHARGES FOR D.I. WATER SERVICES

prepared by R. Dortwegt, 1-22-01

Service Performed	Method	Monthly cost '93-'97	Monthly cost '97-'99	Current Monthly Cost
Makup water production	Resins	included below	included below	(N/A)
Makup water production	RO	(N/A)	(N/A)	\$1,350
Polishing resin regeneration	Resins	included below	included below	\$50
Oxygen scavenger regeneration	Resins	(N/A)	(N/A)	\$166
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Total costs		\$1,600	\$1,365	\$1,566