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TECHNICAL NOTE MIXING EHC FLUIDS

GLCC Fluids: GLCC Reolube Turbofluid® lines are all based on triaryl phosphate esters and these control fluids can be mixed if required and also with similar fluids from other suppliers. The properties of the resulting mixtures will depend on which types of triaryl phosphates fluids were mixed and in what amounts. Some, such as the 100% 'natural' fluid Turbofluid® 46XC have the best air release times and higher electrical resistivities while the 100% 'synthetic' Turbofluid® 46B should have the best oxidation resistance. Mixing will change some parameter but it should be noted that all three lines have all been used successfully in different types of turbines. Consequently, while there might be some unique site requirements in some cases, any of the three fluids or their mixtures can usually be used in most turbines.

Other Fluids: An example of how mixing has been accepted is that the leading fluid in the US being provided by the other supplier is actually a mixture of 'natural' and 'synthetic' triaryl phosphate esters. This was introduced unannounced about 15 years ago and the name was not changed.

With lube oils one problem that can arise is compatibility problems with additives, however with the GLCC line of triaryl phosphate esters the additive content is very low and the supplier of the other fluid states that their products does not have additives. Consequently, additive interaction can not be an issue.

Turbine Supplier Approvals: Mixing triaryl phosphate ester is allowed by both GE and Siemens Westinghouse as well as other turbine suppliers provided that the fluids being mixed are approved. Written documentation is available.

Experience: Many stations have used one of the Turbofluids and as an example a LCRA station in Texas started adding Turbofluid® 46B to Fyrquel® EHC about nineteen years ago. While the fluid is now mainly Turbofluid® 46B there were no problems attributed to mixing. The use of this fluid had other benefits to the station because Forsythe technical support was able to help with several non-fluid issues.

As a guide as to when you might want to mix fluids is when using a GLCC fluid as top-up on a fluid from a different supplier to get some or all of the following; better pricing, the advantages of the GLCC fluids and/or Forsythe technical support. It can also be advantageous in some cases to make-up with 46XC, the 100% 'natural' fluid to improve air release times and/or the resistivity.

