Progress on the ECR4 ion source

D.P. May, S. Molitor, F.P. Abegglen, H. Peeler, and R. Ohlsen

All the parts for the new 6.4 GHz ECR4 ion source have been fabricated, and assembly is beginning. Among recent accomplishments, the axial-field coils have been potted and have been mounted into the steel yoke (Fig.1), the steel plug has been machined and is ready for insertion into the injection

FIG. 1. Coils and steel yoke assembly.

end (Fig. 2) and the support stand for the source has been constructed. Finally, the 15º dipole for

FIG. 2. Steel plug for the injection end.

switching between ECR1 and ECR4 injection into the K500 has been installed (Fig. 3).

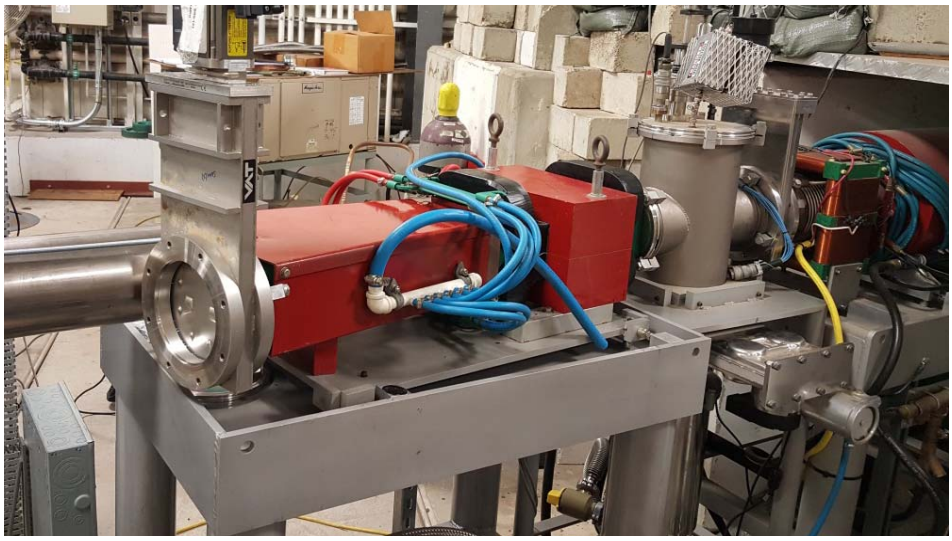

FIG. 1. Dipole on the K500 injection line for switching between ECR1 and ECR4.

In the near future, the cooling-water and electrical connections will be installed on the source, the NdFeB permanent-magnet bars will be inserted into the plasma chamber using the modified mechanism used for the insertion of the bars for ECR2, the potted coil and steel yoke for the Glaser lens will be assembled and the two recently purchased, used 6.4 GHz transmitters will be tested. Next the source, transmitters and power supplies will be installed in place and the analysis/injection line assembled, leading up to all power, microwave and vacuum connections.