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## 2010: A Challenging Year for Refrigerants

This year has brought many changes and challenges to the refrigerant market. In the case of refrigerant 22, while many of the changes were anticipated, actual implementation posed another set of conditions and rules that had to be reviewed and put into motion. Several of the original supply assumptions were either modified or restricted, and coordination between various national government entities has been complicated at best. While it may be fair to say that in this case, we “anticipated the best but planned for the worst” in the case of R22, the supply situation for the new hydrofluorocarbon (HFC) refrigerants has been even more problematic. As a result of these conditions, Drew Marine must raise its prices on all refrigerants, although we believe in the case of certain HFC’s, these increases are temporary and related to deficits in manufacturing and supply that should be corrected over time. However, it is our hope that by providing you a thorough explanation about each group of refrigerants, you can plan your needs accordingly.

**R22:** The complete phase-out of R22 in the European Union and the mandated reductions in supply in the other industrial nations has proven to be a difficult challenge for global marine supply. While we are permitted to supply ships flagged outside the EU in the EU ports, and supply EU-flagged ships with reclaimed R22, the mechanisms for such supplies have been complicated by initial lack of coordination between the environmental and customs regulators. In most instances, these issues are being resolved, however, the ability to obtain adequate sources of traceable reclaimed R22 has been extremely limited; there simply isn’t sufficient recovered R22 available for reclamation anywhere in the world, but most acutely, within the European Union. Additionally, the supply of new R22 elsewhere has been reduced through both regulation and shortages of raw materials like chloroform. Further, restrictions have been placed on the supply of reclaimed R22 outside the EU, limiting its delivery only to ships with emergency repairs. Finally, the mechanism to obtain new R22 within the EU for repackaging into cylinders is more expensive and time-consuming than experienced prior to this year. We consider these shortages and restrictions permanent, and as a result, a price increase is imminent.

**R134a:** The global supply of R134a has been extremely limited since the autumn of 2009. It was the belief of most parties in the supply chain that while in the distant future the manufacture of R134a might be reduced if the automobile manufacturers moved to a new refrigerant, the immediate shortages were temporary in nature and would be resolved prior to the spring-summer cooling season in the Northern Hemisphere. Unfortunately, we have found this not to be the case. R134a supplies are extremely limited globally at the height of seasonal demand. With manufacturing concentrated in a limited number of locations geographically, even as production rates are increased, it will take several months until the global demand can be delivered. As a result, the cost of R134a has increased in most geographies between 25 and 35% in the past sixty days, and additional increases cannot be ruled out. These factors are responsible for an impending price increase.



**Other HFC's:** We are experiencing a similar situation with all the newer HFC blends, including R404A, R407C, R507, R410A and all the “transition blend” products such as R417A. All these products include a large fraction of R125 which is also in limited supply. To complicate the situation even more several of these products also contain R134a.

The compositions of these products are:

R404A:	44% R125, 52% R143a, 4% R134a
R407C:	25% R125, 52% R134a, 23% R32
R410A:	50% R125, 50% R32
R507:	50% R125, 50% R143a
R417A:	46.6% R125, 50% R134a, 3.4% R600

We believe this R125 shortage will also be temporary, although it is being complicated by the increasing number of new products that the manufacturers are adding to the market, each with uncertain demand but requiring an allocation of scarce R125 and a somewhat lower but still significant amount of R134a. We believe that sometime over the next 3-6 months the supply issues will be resolved; however, we have no alternative but to pass on our added costs in these products. We will impose a per kilogram surcharge on all HFC-blend deliveries in the near future but will evaluate our cost position monthly, and adjust the surcharge accordingly.

For further information, please contact your Drew Marine account executive.