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C & S  
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**SUMMERIZING YOUR FUEL STORAGE**

*By Jerome P. Sava*

During the heating season, the oil dealer is primarily concerned with the timely supply and transportation of heating oil to the homeowners. When it is an especially long and cold season (remember those?), attention is necessarily diverted from service related problems in favor of the more pressing business of getting product delivered promptly and steadily. This is the reason why most progressive dealers regularly treat their fuel with an effective multifunctional preventive maintenance chemical additive such as C & S Scientific's *PMT*. Such a regular treatment program helps to assure that the dealer will not be confronted with sludge and/or soot related service calls during the busiest months of his business; and it guarantees that the homeowner will get through the season without any 'burner interruptus' problems as well.

Once the season is over and product turnover is greatly diminished, many owners breathe a sigh of relief and head for Florida. However, it is precisely at this critical juncture that situations could develop that will have significant and devastating long-term effects unless properly controlled.

**The long-term storage problem**

As with many chemical mechanisms, a non-dynamic situation occurring in a favorable environment and catalyzed by some energy source will yield high rates of reaction. Specifically, fuel oils stored in a quiet tank that may have trace quantities of water, sediment, and/or algae, and exposed to the penetrating heat of the sun, will result in the accelerated rate of formation for corrosion, sludge, and organic and inorganic sedimentation. These deposits will continue to precipitate unabated and may eventually create a significant quantity of contamination and a correspondingly high potential for serious filter clogging and faulty fuel/air ratios. The status of the fuel currently existing within the tanks can be readily determined via cross-sectional samplings. Should samplings be obtained at various levels close to the floor of the tank, laboratory analyses may reveal a bottom level of heavy hydrocarbon sludge, a middle layer of free water, and a top layer of biological organisms floating in a foamy emulsion of oil and water. Any or all of these contaminants pose great potential for downstream handling and firing

problems, and all of these contaminants will tend to increase in magnitude during the long hot summer months if left unchecked. Even if the samplings show only trace quantities of such contaminants, one cannot rest easily. Simply because of the inherent oxidation tendency and the relative instability of today's fuel oils, there is always the likelihood for new and accelerated adverse formations in aged, stored product.

### **Good housekeeping a must**

So now that the problem has been identified, just what can be done to remedy and control any existing deposits and to prevent any new ones? First and foremost, good housekeeping procedures are the prime line of defense. Such simple procedures include periodically draining or pumping out any bottom contaminants from the terminal storage tanks, never transferring oils taken from a problem tank into the main product supply, routinely changing filters and strainers, checking home fill locations for leaks or water reservoirs, and not using off-spec product. As mentioned previously, regular treatment with an effective oil conditioner such as *PMT* will also help to inhibit troublesome contamination, as well as the immediate use of shock treatments to arrest any unusually critical situations when they first occur. Ignoring the situations, or believing that the problems will clear up on their own, is a sure route for disaster – in fact, the problems will only tend to continue and at an ever increasing frequency.

### **Summerize to stop problems:**

Aside from proper housekeeping and effective preventive maintenance additives, is there anything else that can be done to minimize the adverse effects of summer storage? Yes! A one-time booster treatment can be introduced into the oil product being stored at the terminal tanks. This location is critical for it is in these large tanks that much of the source of ultimate problems will originate and will be later transported to the homeowners' 275 gallon and 550 gallon tanks. Typically, the fuel treatments that are automatically added to the fuel throughout the year are designed to provide a variety of functions to benefit the entire combustion system, from tank to lines to burner to stack. However, since the treatment rates and formulations of these conditioners are generally based on fuel that is being stored, shipped, and consumed in relatively short periods, they may not provide total protection against all the factors that come into play when seeking to optimize the storage of large quantities of product during the long, hot, and dormant off-season period. To be sure, any reliable and faithfully administered chemical program will greatly assist in summer protection, but a specific concentrated formulation is really needed to provide the full complement of components necessary to cope with the specific long-term problems that can develop in the stored product at the dealer's terminal.

Such boosters are now available from several chemical manufacturers, including C & S Scientific's *Summerizer 7500*. This latter product, for example, when added at the one-time low ratio of only 0.015% (1:7500), will adequately inhibit any unusual contamination formations during the slow summer months through its ultra-concentrated composition of stabilizers, repolymerization retardants, water and corrosion inhibitors,

sludge solvents and dispersants, antioxidants, and slimicides. Generally, the cost for such booster chemicals is quite economical considering the low dosages required. In fact, the one-time chemical cost is less than 5% of the expense that might be otherwise incurred for a service call caused by contaminated stored fuel that was later shipped to a homeowner's tank.

### **Summing up**

The use of a summer booster is finding great favor among oil dealers who maintain their own storage tanks, especially those that fill up in the summer because of cash flow incentives or to satisfy their summer fill programs. Knowledgeable dealers that already recognize the benefits of regularly treating their fuel during the season have found the booster approach to afford them extra security during the slow season. However, even many dealers that have chosen not to treat their fuel year-round have adopted the summer program in order to provide a measure of protection against potentially rampant contamination. The summer treatment concept therefore represents a unique and economically viable new weapon in every dealer's arsenal of tools used to directly combat the detrimental effects of prolonged summer storage, and as a means of indirectly reducing profit-cutting service calls.

Finally, summerizing stored product is a most important and timely innovation since it appears that the overall quality of heating oil will be adversely affected by the majors' continued drive to higher outputs of more profitable petrochemicals at the expense of fuel oil production. The increasingly taxing and demanding cracking refinery processes necessary to convert crude to these preferred petrochemical streams have the accompanying effect of producing unstable, heavy, carbonaceous #2 heating oils. Obviously, such fuels are much more susceptible to the typical problems that beset every oil when conditions for contamination exist. Therefore, anything that can be done to preemptively forestall fuel degradation represents a significant advance in maintaining overall fuel quality and consistency. The most important ultimate benefit is, of course, the continued good will of the homeowner by helping to assure a steady flow of clean and efficient oil heat.

