

Check List: Some Suggestions

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A new year brings forth new challenges, anticipated goals and other projects, all of which intend to help us progress and make '08 especially successful. It's that time of year we find ourselves making plans, reviewing processes or targeting new areas, or modifications to existing ones. The check list is a popular way of organizing our thoughts and plans, which typically are geared towards improvements to meet planned objectives. Many plans are outlined with projected completion dates, tied in to budgetary allocations. Others are a result of an urgent response for correcting a problem. Some may be due to necessary action to seize an opportunity for new or enhanced business. Try getting a consensus, as a group, to sufficiently make and keep a checklist. In general terms, a checklist may encompass a wide range of subjects. Here are some items that may be important.

The physical plant, exterior

A survey should determine if security, roofing, siding, lighting, signage, paved surfaces, loading docks, etc. are adequate. The plant should be a welcome example of the immediate neighborhood. Where applicable, a clean landscaped property imparts the prestige of the company and impresses customers and other visitors.

Company vehicles

Aside from the strict requirements (inspection, registration, insurance, transport stickers, etc.), maintain a routine maintenance schedule. Keep vehicles clean and orderly. Advertise the company with appropriately stenciled information. Check mileage to anticipate lease agreements or plan new purchase.

Building interior

The vestibule or waiting area should be clean and sufficient to accommodate guests and visitors. Sign in ledger and safety glasses should be required. The office should be organized with respect to bookkeeping, billing, inventory, conference room and other needed space. Good lighting is very important. Walkways leading to and into the plant should be clearly marked.

Computers

Determine if the hard drives and programs are sufficient not only now, but for the rest of the year. Install upgrades as deemed necessary. Back up data regularly. Viruses and breakdowns occur. Don't risk losing information that is very important to the business.

Communication

Fifteen years ago, who would ever have considered faxing as so necessary? Now it seems we cannot function without fax machines. A good working unit is a must. Many companies use cell phones for inter-company communication. Check into available plans that are economical and give the best features.

Web sites have become popular advertising mediums for companies. It is truly eye opening as to how many "hits" occur from interested companies. The investment to design and upgrade can return interesting new sales.

The physical plant, interior

The insurance company may be a most helpful source to audit and identify areas for improvement (this would certainly include the exterior as well). As regards process lines, equipment and work areas, there are numerous items to consider. Tanks and liners require inspection with appropriate replacements. Be alert that bowled or bent tank walls may be a result of the wrong material of construction for the application or operating conditions. Tanks should, per local or state regulations, accurately describe health hazards and other information, such as CAS numbers. Rinsing may need to be improved by installing additional rinses or sprays. Check that plating tanks contain a sufficient level or surface area of anodes. Filters may need service or replacement parts. Perhaps filters need to be installed in the first place. Rectifiers do require routine service. Defects,

such as excess ripple, must be corrected. Rack tips continually build up plated deposits that require stripping. Racks may break, linings split, drawing in solutions that contaminate other process baths. The usual problems of wear and tear affect plating barrels: warping, loose doors, overplated danglers, plugged barrel perforations. Mass finishing equipment does require routine service. Moving parts need lubrication, liners tend to wear and crack and vibratory bowls need periodic checking for proper balance. Belts wear out.

Inventoried and stored chemicals should be in their proper place, labeled as required. Homeland Security has issued specific regulations for storage of particular chemical types. Accurately maintained ledgers listing daily chemical inventories are very important. This refers to government requirements for certain chemical groups. In the process applications, it is important to be organized, thus avoiding critical shortfalls that could impede or stop production.

Products / processes

Vendors continually upgrade and introduce new products and processes. This is in response to improvements such as economics, production throughput, inventory requirements, easing demands on waste treatment and meeting or exceeding more stringent wear resistance specifications. It is important to confirm what is available that can not only simplify the work load, but offer better performance. Plan accordingly. Be proactive.

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Editor's Note: We've been counting, and find that this is Steve Rudy's 100th Finisher's Think Tank. This is a laudable achievement, considering that he has given us something fresh and timely for all this time. Never has he dredged the bottom of the Think Tank. Congratulations and thank you, Steve - we're looking forward to more of your good works in the coming months. in much greater detail. This work reveals that air pollution blows across the Pacific Ocean from Asia to North America far more than was previously thought.⁸

Researchers at Woods Hole Oceanographic Institute found that two brominated organic chemicals accumulating in the tissues of marine animals and suspected to be manmade pollutants actually come from natural sources. The chemicals, methoxylated polybrominated diphenyl ethers or MeO-BDEs, found in whale blubber, raise questions about the accumulation of both natural and industrial compounds in marine life, and are causing researchers to rethink the sources and fates of many chemical compounds in the environment. Researchers took advantage of the fact that natural sources have a detectable radiocarbon signal while human produced sources do not. However, it was far from a simple analytical task. It took 18 months to conduct the experiment. This is another example of advances in analytical techniques that are helping find chemicals preciously impossible to analyze.9

Forty years of nuclear resonance spectroscopy (NMR) progress has positioned scientists with the ability to listen in on the chemical phone conversations that are going on invisibly between the world's creatures all of the time. Thomas Eisner, professor at Cornell University, says, "Eavesdropping on the chemical communication of single insects is a major breakthrough."¹⁰

Lastly, have you heard about the asserted link between hurricanes and global warming? A recent paper in Science throws some cold water on this assertion. The authors report that modern technology is enabling us to locate and measure the full strength of hurricanes that would have escaped detection as recently as 20 years ago. What's so different today? Only two geostationary satellites tracked hurricanes in 1975. Eight substantially more powerful geostationary satellites track and measure hurricanes today.11 The new technology not only locates more hurricanes out at sea that would have been missed in the past, but more importantly, is able to pry deeper into the hurricanes themselves to measure maximum wind speeds that escaped detection in the past. As a result, hurricanes measured at Level 3 a few decades ago will now be measured at Level 5 in many cases today. Posf

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Editor's Note: We would like to mention that Mr. Dini is having so much fun providing these columns that he is churning them out at a rate faster than we can publish them on a monthly basis. Indeed, he has created a blog at http: //myblogscience.blogspot.com. If you wish to see more of Mr. Dini's provocative works that might not have appeared in Plating & Surface Finishing, check it out.

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The lab

An inventory of chemicals and reagents should confirm stock requirements and isolate any items that are past their date of use. Equipment such as hoods, thickness testers, pH meters and other such related for analysis and quality control may need calibration. Data and records should be upto-date and saved in case of computer malfunction. Analysis methods may be updated to comply with any new requirements. Analysis schedules should be reviewed and adjusted. Suppliers should be helpful with regards to proprietary processes. The lab staff may need updated training with regards to safety and methods of analysis. NASF is a good source for educational materials.

Waste treatment

Our industry is very dependent on functional waste treatment systems. In fact, citations, fines and possible shutdown may result if discharge compliance is not met. We are dealing not only in low parts per million measurements, but in some applications, parts per billion become critical as well. Therefore a checklist should be very important, monitored for progress and updated or amended as conditions require. Waste treatment process lines should be evaluated for modifications and improvements. Equipment such as tanks, filters and pumps need regular inspection for serviceable performance. pH and ORP meters should be calibrated often. Chemicals used in the process should be properly dispensed at the optimum dosages. Don't shock the system with rapid, bulk solution dumps. Suppliers of waste treatment processes and chemistries should offer expert recommendations and service. It is a big relief to customers knowing their metal finishing vendor shops are compliant and in many instances officially certified for compliance.

Get ready for action. 2008 can be a very good year. An effective checklist can be very helpful. Consult your staff and regional suppliers for their input. Most important, be organized and stay the course.

Best regards for a Happy and Successful 2008. *Post*