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PRINTING INDUSTRIES OF AMERICA
MAG THE MAGAZINE
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OWNER
GOLD STAR PRINTERS
CHAIRMAN of the BOARD of DIRECTORS
PRINTING INDUSTRIES of AMERICA

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QUALITY CONTROL

Ben Franklin Honor Society 2016 Inductees

Denny Shorett *Douglas J. Grant* *William D. Prettyman* *Susan P. Nofi* *Dr. Twyla J. Cummings* *Cheryl Kahanec* *Thomas D. Conley*

The Ben Franklin Honor Society of Printing Industries of America is comprised of industry leaders who have made lasting contributions to advancing print and graphic communications. Potential inductees must render outstanding and/or meritorious service to associations such as PIA, its affiliates, the Print and Graphics Scholarship Foundation, and the industry. The society formally inducted these seven industry leaders at its awards ceremony on Friday, November 18.

For more information on the Ben Franklin Honor Society, including historical documentation and bylaws, visit **www.printing.org/honorsociety.**

Advancing Graphic Communications

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MEMBER PROFILE

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Conduct a competitive analysis of your marketing efforts.

PIA POST-ELECTION DEBRIEF

Lisbeth Lyons, Vice President, Government & External Affairs, Printing Industries of America

It's not often that Washington can be truly shocked. But in the wee hours of November 9, it's safe to say that the nation's capital—regardless of political party or candidate affiliation—was shell shocked. On Thursday, President Obama held a joint press appearance with President-elect Trump and it all became very real, and the look toward governing began in earnest.

But, Wait … What Happened?

A period of reflection by both victors and losing campaigns following a national election is good and necessary, so it's important to consider the major takeaways from 2016's race for the White House, including:

1. **This was an election about grievances—real and perceived.** Just as the United Kingdom's surprising Brexit vote was based on individual angst and frustration, much of the U.S. electorate supporting Trump cast their votes based on the same feelings. Think back to 2008, when then candidate Barack Obama was offering hope and change as a post-partisan, historical candidate. Many voters flocked to his brand, just as they flocked to Trump when the hope and (positive) change was not felt personally during the past eight years. In short, we're living in a time when voters will switch party allegiances based on the promise of a better individual circumstance—and the success or failure of delivering on it. We should not be surprised to see more populist-driven elections in the future, both here at home and across the globe.
2. **Hillary Clinton ran against a phenomenon—again.** Putting aside your personal or partisan leanings regarding Secretary Clinton, it's legitimate to acknowledge that she ended up in less of a "woman a mano" race—but a "woman versus movement" race. Eight years ago, her challenger was a white-hot phenom named Obama; this time, the "Trump Train." This was evidenced in the unexpected and long coattails of Donald Trump that turned state after state "red" all the way down ballot.
3. **Rural voters had their say.** Let's define "rural" as not solely the family farms and ranches, but rather, say, by any voter having to drive more than one hour to see a major sports franchise play at home. In other words, the popular term "flyover" country. A quick look at the Trump-Clinton map shows this graphic representation of division between the coasts and basically the rest of the country (save reliably blue Midwestern states of Minnesota and Illinois, and two states with heavy Latino voter backlash against Trump—Colorado and New Mexico. Michigan is still not called at the publishing of this article.) Layer on top of that the Rust Belt "Reagan Democrat" blue-collar vote in Ohio, Wisconsin, and Pennsylvania, and there is a clear division of voters.
4. **Speaking of demographics, Clinton really underperformed.** No one in the Clinton camp honestly expected for their candidate to turn out voters in key demographics—namely, African-American and youth voters—in higher numbers than President Obama, but the goal was to keep her at or very near his historic levels of participation by certain groups. Other than the female vote, this did not materialize. Perhaps this was most glaring in the battleground state of Pennsylvania, where Clinton failed to turn out Philadelphia urban votes at the necessary level and where Trump overperformed by running up GOP turnout in the western part of the state. In the end, each "movement" came down to simple math. And Clinton lost that equation nationally.
5. **An autopsy is required—**but on a totally different cadaver than we thought. Following Obama's rout of Mitt Romney in 2012, the Republican National Committee commissioned an extensive deep dive into why and how he lost so badly and outlined a blueprint for change to avoid losses in the future. (Ironically, nearly all of the recommendations were ignored by Trump, and he won "bigly." Take that, "official" Washington.) Political pundits were all set to pontificate post-November 8 about a Republican party in disarray, leaderless, ripped apart by factions and perhaps unable to be glued back together.

   Instead, one week out from the election, the national Democrats are leaderless, perhaps directionless, and, as one Congressman stated following the post-election Congressional Democrat conference call, in "group therapy." The Obamas, Clintons, and Bidens are all gone. Senate Democratic Leader Harry Reid is gone (retired). The Democratic National Committee has no chair with Debbie Wasserman Shultz and Donna Brazile both resigning from the post in controversy during the campaign. Even House Democratic Leader Nancy Pelosi, long considered by her colleagues as a formidable, effective leader, a prodigious fund raiser, and the only visible leader of the party currently may not retain her post. One week after the election, House Democrats have put the brakes on a business-as-usual approach to leadership elections, pushing back the vote on retaining Pelosi until after Thanksgiving, which in essence allows

time for a potential challenger to emerge. Looking back again to the election results map at the top of the ticket, it's not a surprise that House Democrats who are urging more reflection about the direction and face of the new party are younger lawmakers from battleground or blue states won by Trump. In the Senate, leadership is more settled, where New York Senator Chuck Schumer will be leading his fellow Democrats. Expect to see a factional push and pull, however, between the progressive Bernie Sanders/Elizabeth Warren wing and a group of ten Democrats up for re-election in 2018 in states won by Trump.

Now What?

It's often said that "campaigning happens in poetry; governing happens in prose." While it's quite difficult to compare President-elect Trump to a Keats or Dickinson when it comes to the art of poetry, the phrase has merit. Trump enters the White House as a true outsider, as he famously stated "owing nothing to anybody." During the campaign, a comparison of policy websites between Trump and Clinton was stark; Clinton published sections upon subsections of legislative plans, while Trump basically reiterated campaign stump speech applause lines. Trump has self-identified as both a Democrat and a Republican at different times in his life, and it seems almost inevitable that some of the harder core, "alt-right" Trump enthusiasts will be disillusioned at the first hint of compromise by the author of *The Art of the Deal*. Replacing (or reforming) the Affordable Care Act, immigration and border security, and launching a major infrastructure overhaul are all big-ticket items that Trump has promised to address. Comprehensive tax reform and rolling back Obama's executive orders on job-impacting regulations (namely EPA and Labor) are also key agenda items that are predicted to be net positives for print and the business community at large.

For additional indication of policy direction, expect Trump to borrow heavily from House Speaker Paul Ryan's "Better Way" agenda (www.bettergop.gov), unveiled largely as an alternative policy guide during a totally confusing and drawn-out GOP presidential primary. Keep an eye also on what should be a very interesting relationship between fellow New Yorkers Trump and Schumer, both often described as "transactional" in their approach to decision making. While Washington's "new world order" has been branded as unified Republican government control, the Senate is still fairly evenly split between 52 Rs and 48 Ds. Our founding fathers purposely created the Senate to be a more deliberative, slow-churning body than the House, and it takes 60 Senators to break a filibuster. Senate Majority Leader Mitch McConnell and, in particular, Senator Schumer and vulnerable incumbent Democratic Senators facing reelection in two years, will find a need to come to the table with Trump and Ryan on high-profile issues.

A Time For Unity

While college campus protests are still ongoing and fashionistas who feel unsafe with the presidential election results have taken to wearing safety pins in protest (yes, this is a thing, per *Vogue* magazine), the vast majority of Americans have returned to living and working under the democratic (small "d") reality that elections have winners and losers and the critical work of running the country must now be the imperative moving forward into 2017.

PIA's President and CEO Michael Makin and the association's executive volunteer leadership moved swiftly to state the industry's recognition that "We, as business leaders, all have a unique responsibility to bring our country back together again." This quote is taken from a letter sent on the morning of November 9 to President-elect Trump signed by PIA and hundreds of like-minded business association leaders from multiple industries across the country. The letter went on to pledge productive work and constructive disagreement with the new administration, and concluded by stating that "We, representing companies large and small, have an urgent need to restore faith in our vital economic and government institutions and to bolster the promise of America."

Onward to 2017.

Q&A

CURT KREISLER

CHAIRMAN OF THE BOARD, PRINTING INDUSTRIES OF AMERICA

Curt Kreisler, owner of Gold Star Printers in Miami, Florida, was recently sworn in as the fourteenth joint Chairman of the Board of Directors of Printing Industries of America and its Foundation. Shortly afterward, we asked Curt to share a bit more about his background in the industry, his plans as Chairman, and his vision for the future of our industry.

Curt Kreisler

Q: How did you first get involved in the printing industry, and how do you think your experiences will affect you in the role of Chairman?

CK: I think my first meeting with the Printing Industry of South Florida was in 1984. I was working at Gold Star but not yet an owner. I had heard about PISF and went to a dinner meeting to see what it all about. It was one of those moments when you remember so clearly because that was the night that I knew I wanted to be a printer. I was in a room with other printers, big and small, and they were all willing to share and help me. I was blown away. I left there with a new appreciation of the industry and a determination to be part of it. Once that decision was made, I went to other meetings, events, and trade shows and learned everything I could. I was a kid playing with the big boys and loving every minute of it. When I was asked to serve on a committee, a whole new door opened. Now I was helping with direction, helping the industry, helping other printers, and the hook was set even deeper. Having been involved as much as I have for the past 30 years, I've seen good times and bad, success and failure. I think that experience will help for the upcoming year.

Q: What advice would you give to the thousands of other "small" printers in North America? What are their biggest obstacles and advantages?

CK: Although my roots were very small, I don't consider my company small anymore. But there are definite challenges that smaller printers have that larger printers don't and advantages that smaller companies have that the bigger companies just don't. For me, the biggest difference between the larger and smaller shops is margin. When my company was small, the margins were great. The challenge that I had was to grow sales without sacrificing too much profit. That margin was something that I was always aware of; and, if I were to give a growing company advice, it would be to watch your growth and make sure that you are not just growing for growth's sake but for profit's sake.

Q: What do you see as the primary issue facing the graphic communication industry as a whole?

CK: The lack of education. I don't mean college courses or webinars but rather a general overall knowledge of running a business. I am specifically referring to our businesses and running those businesses to make a profit—to have a future. Many times I have tried to get my competitors involved in the Association. Many have been skeptical about my intentions. I explain to them that I would much rather have an educated and knowledgeable competitor that knows his/her costs and operates their business to make a profit rather than the guy who underbids everything and makes the whole industry weak. So to me, being educated and learning as much as you can about this industry makes us all better.

Q: What initiatives or projects are you most excited to get started on in your new role?

CK: PIA is a well-run organization with talented and dedicated staff, selfless volunteers, a great history, and a promising future. So why change anything? A couple of tweaks here and there would be fine, but no major changes. The one thing that I am going to try and change is the mindset of many people involved in this industry. For too many years, I have heard printers, vendors, manufacturers, and the media talk about the industry not being what it used to be—too many individuals crying how things are so different than the old days. Show me an industry—especially a manufacturing industry—that isn't different than it was 30 years ago. Things always change. Business can be tough. That's what makes it exciting, and why success is so gratifying. I personally prefer to embrace change and look at it as an opportunity. I would encourage others to realize that although we are different than we used to be, we are not as bad as some would want you to believe.

Q: As a long time member and contributor to PIA, what do you see as the greatest advantages of membership?

CK: There are many, many benefits to being part of your local affiliate and national. The easy answer is that all of the benefits are important, and that education, group purchasing, and government affairs stand out. And those are terrific benefits. But for me, the biggest benefit has always been interacting with my peers. I literally feel like I have gotten an MBA in printing, marketing, management, sales, and accounting over the years by being involved in PAF and PIA and learning from my fellow members.

GOLD STAR PRINTERS

PIA Staff and Curt Kreisler, Owner, Gold Star Printers

Gold Star Printers has been setting a relentless standard for excellence and customer service in Miami, Florida, for nearly thirty years. Below, Gold Star's owner Curt Kreisler shares some keys to building a printing company that measures its success in solid relationships—as well as sales.

How Yesterday Shaped Gold Star Today

My company was started in 1972, and I bought it in 1988. The company was much smaller back then, with small equipment and limited service offerings. I am surprised sometimes by how much we have grown—now we do as many sales in a week as Gold Star did in an entire year. Over the years, we've had four acquisitions and formed one partnership. We operate out of three locations and for the most part serve a four-county area of South Florida. We have a very typical offering of products/services, including offset printing, digital printing, wide and grand format, mailing, design, warehousing, and promotional products.

Gold Star Printers' Core Mission and Values

We are heavily driven to deliver great customer service. We have typical product and service offerings, so we stand out by service. We also don't typically compete on price. That's not to say we're expensive, but for us it's not a race to the bottom. When we first begin to interact with a potential new client we will tell them up front that if they make their purchasing decisions based solely on price we will not be a good fit for them. Many times we don't get the first order but sometimes we get the second and beyond.

Fostering Great Client Relationships

In addition to the great customer service, we treat our best clients like gold. This is done with a never say "No" policy. If a client needs something, it gets done. No excuses. One of our clients needed 24 mounted posters in San Francisco. They are based locally, and they forgot to ship them to the conference. Our CSR found out about the problem after their owner was on her way. We had 2½ hours to find a vendor and have them produced. Using the network of the printers I know from being involved in PIA, the posters were done on time and delivered to her hotel. Needless to say she was very happy, and in the future when someone knocks on her door and says that they can do it for a dollar less, she won't even consider making a change.

Key Differentiators

We get involved in our customers' business and provide more than just printing. More often than not, we work with their marketing departments and help design campaigns to help the client get the best return on their investment—not just pay the lowest price. This puts us in the position of being a valued partner and not just a vendor. Some of this is done through database management, multi-faceted campaigns that involve more than print, and holding our customers to performance standards.

Challenges Overcome

The biggest had to be Hurricane Wilma! We had no power or phones for three weeks. Employees had damaged homes and cars. That was a difficult few months between the cleanup, costs, and general mayhem in the community. On top of that many of my customers had power within a week and were operating sooner than we were. That created problems because they needed their stuff and we couldn't deliver. Ultimately, my Printing Association of Florida colleagues and friends came to my rescue with press and bindery time. I had employees spread out over the county using other printers' equipment to keep our customers happy. Like I always say...This industry is great and full of terrific people.

Defining Accomplishments

We're extremely proud of the tenure of most of the Gold Star staff. The average length of service is over fifteen years. And they are terrific! Knowledgeable, friendly, and caring, they always say that they are lucky to be here, but I feel the opposite. I am lucky to have them.

A Great Place to Work

Everyone involved makes Gold Star a great place to work. The typical cliché is that "we are like family," but here it really is true. Over the years we've had a marriage between employees and one who was a maid of honor for another. We've seen employees have children and then have watched them graduate high school and college. Unfortunately we have experienced deaths, and it was literally like losing a family member. Recently someone who left here four years ago passed, and everyone showed up for the funeral. It makes me so proud that these are the people that represent Gold Star.

Gold Star Printers—What the Future Holds

I hope Gold Star Printers enjoys more of the same success. I have had many conversations with fellow printers, employees, and my own children about what makes a successful business. For me it is very simple: go to work, do what you say you are going to do, and treat others how you would want to be treated. That plan has worked well for the past 28 years, and I expect it to continue working well for the future.

STANDARD OPERATING PROCEDURES

THEIR IMPORTANCE AND HOW TO DEVELOP THEM

James Workman, Vice President, Center for Technology and Research; and Dillon Mooney, Technical Consultant, Printing Industries of America

The purpose of this article is to provide an understanding of the creation and use of standard operating procedures (SOPs). Depending on the task being documented, SOPs can be very long and complicated—and end up on a shelf and never utilized. While SOPs are a procedural requirement for ISO companies, any printer can benefit from well-written, simple SOPs. This article will describe the basic concept behind creating SOPs and an SOP for a press makeready. Procedural SOPs that are concise can be displayed on cards at the machine location. SOPs are unique to each printer's operation, equipment, personnel, and workflow.

A standard operating procedure is a set of written instructions that document the steps or tasks needed to complete a particular activity or job. The development and use of SOPs is an integral part of a successful quality system, providing individuals with the information they need to perform a job properly and facilitating consistency in the quality and integrity of a process. That is why companies seeking ISO 9001 registration are required to have SOPs in place for every quality-critical activity.

SOPs may describe, for example, how operators perform pre-makeready and makeready, maintain equipment, and run jobs. SOPs must be specific to the facility whose activities are described—generic SOPs can't take into account the differences in equipment and approaches to completing various tasks.

Among the benefits of developing and using SOPs:

- Less variation in processes or procedures should result in less rework, errors, and waste.
- Improvements are captured as SOPs are revised.
- Less disruption occurs when temporary or permanent personnel changes are required.
- Safety concerns and requirements are reinforced.
- Training content is partially written, since SOPs provide detailed work instructions.

If not written correctly, SOPs are of limited value. In addition, the best written SOPs will fail if they are not followed. Therefore, the use of SOPs needs to be reviewed and reinforced by management.

Types of SOPs

SOPs may be written for any repetitive technical or administrative activities being followed within an organization. Areas that should have SOPs include developing quotes, job layout, job planning, estimating, scheduling, materials procurement, prepress through postpress, warehouse, and shipping operations. Don't ignore the value of SOPs at the beginning of the manufacturing process, because many problems can be created if every estimator, CSR, and prepress person does something just a little bit differently.

Development

A recommended first step is to form a group of people to develop and document procedures and checklists. Although company management and support personnel should be part of the group, the majority of the group's membership should come from the individuals who operate the equipment and execute processes and who will know whether current procedures are truly effective or if revisions are necessary. The group should be charged with the responsibility of creating, communicating, and revising the procedures and checklists with feedback from overall operational staff and process-support people.

SOP development begins with gathering and consolidating existing documented procedures and work instructions. Frequently departments will have various degrees of documented procedures and manufacturers' operation manuals, but they may be scattered. Assign individuals to gather the documents. Once the necessary documentation has been gathered, sorted, and organized, it needs to be objectively reviewed by the team. There are fundamental issues to consider when reviewing previously documented procedures and policies:

- Is there more than one method documented to complete the same task?
- When were tasks and procedures established?
- Who established the tasks and procedures?
- Do previously established tasks and procedures conflict with current quality and safety standards, technology, processes, and company policies?

In the event that documented procedures don't exist, other methods need to be employed, including observing and/or videotaping individuals performing tasks and writing down everything they do. This then serves as the starting point for the group to debate whether there are better ways to do the activity. Many companies find that it is effective to develop and establish a series of SOPs during an intense, concentrated initiative over several days.

The team will then work together to come to a consensus to establish the final standardized methods, activities, and procedures that need to be followed.

Writing

Once the new agreed-upon methods and procedures are complete, they must be written up and placed into the approved format. The basic contents of an SOP should include:

- Title of SOP and area where it is to be used
- A list of personal protective equipment (PPE) to be worn
- An introduction to the task
- The procedure explained step by step (including safety requirements)
- An area for notes or any adjustments made to the SOP
- Document control information

SOPs should be written in a logical, concise, step-by-step, easy-to-read format. The information presented should be unambiguous and not overly complicated. The active voice and present verb tense should be used. The term "you" should not be used, but implied. Keep it simple and short. Information should be conveyed clearly and explicitly to remove any doubt as to what is required.

Avoid:

- Vague, meaningless words
- Excessive wordiness and length
- Long, complicated sentences or paragraphs
- Acronyms, abbreviations, slang, or other shortcuts of expression that are not clearly defined
- Repeating the same points too often
- Assuming conclusions are obvious to the reader

Format

SOPs should be organized to ensure ease of use and to be specific to the organization which develops it. There is no one "correct" format, and internal formatting will vary with each organization and with the type of SOP being written. Where possible, break the information into a series of logical steps to avoid an extra long list. The level of detail provided in the SOP may differ, for example, based on the critical nature of the process, the frequency of use, and the number of people who will use the SOP.

Many activities can also benefit from checklists to ensure that steps are followed in order. Checklists are used to document completed actions. Any checklists or forms included as part of an activity should be referenced at the points in the procedure where they are to be used and then maintained with the SOP. Copies of specific checklists should then be maintained with the SOP.

SOP Approval, Accessibility, and Revision

SOPs should be reviewed (validated) by one or more individuals with appropriate training and experience with the process. It is especially helpful to have SOP drafts tested by individuals other than by members of the original group that put them together. The finalized SOPs should be reviewed and receive a signoff from the appropriate company manager.

SOPs also need to be readily accessible, if not always visible, in the work areas of those individuals actually performing the activity; otherwise, SOPs serve little purpose. SOPs need to remain current to be useful. Therefore, whenever procedures are changed, SOPs should be updated and re-approved.

SOPs also should be systematically reviewed on a periodic basis (e.g., every one to two years) to ensure that the procedures remain current and appropriate. The review date should be added to each SOP that has been reviewed. If an SOP describes a process that is no longer followed, it should be withdrawn from the current file and archived.

There should be a master list of all SOPs maintained by a company manager. For larger companies, this is often the responsibility of the quality manager. This file should indicate the SOP title and number, version number, date of issuance, author(s), status, and notes. This list may be used when audits are being considered or when questions are raised by customers as to the quality practices being followed by their print supplier.

Training and Auditing

Adherence to SOPs will be disappointing if employees aren't trained how to follow the procedures. Even with very detailed steps, it is necessary to properly train workers. Otherwise, individuals may interpret the meaning of procedures in different ways, which may lead to inconsistency in work routines and performance.

In addition, it's human nature for people to become less disciplined about following SOPs unless they are frequently reinforced. One such method would take the form of audits by fellow staff. Each SOP should be audited a few weeks after implementation and thereafter at least annually.

Summary

SOPs are a primary tool in achieving effective and efficient operations and are central to companies with continuous improvement programs, since they provide a way for improvements to be documented in revised SOPs. When everyone is on the same track and consistently doing things in the same manner, reduced waste, lower costs, and quicker throughput become a reality.

A Pressroom Example

The following SOP example was created for use in a pressroom. Ideally, the steps would be printed on cards and posted in the appropriate area.

1. Review schedule to set press printing schedules.
2. Retrieve job jacket from press console.
3. Read to confirm all information and samples are present and correct.
4. Locate standard folder for the item or series to be run.
5. Determine rotation of inks.
6. Retrieve plates, inks, and coatings from storage area where appropriate.
   a. Log coating used.
7. Retrieve substrate from storage area and inspect for paper size and caliper.
   a. Log substrate used.
8. Position substrate pallet at feeder.
9. Hang plates in proper rotation, set feed and delivery, and fill ink fountains.
   a. Log inks used.
10. Set register, check print to print fit.
11. For existing jobs:
    a. Adjust color density to approved standard folder.
12. For new jobs with approved color standards:
    a. Adjust color density to approved standard folder.
    b. Obtain approval from supervisor.
13. Balance sheet color to within approved color limits.
14. If new job or no standard folders are located, save three consecutive sheets for the QA office to make standard folders.
15. Inspect UPC code and store press sheets in storage location.
16. Run specified number of sheets.
17. Pull and retain press sheets a minimum of every 2,000 sheets and inspect for color density and print defects.
18. Record color consistency with hand-held spectrophotometer or Heidelberg Image Control.
19. Isolated defects within a sheet are identified in the load by tagging and checking off on the appropriate defect on the tag, drawing with a marker down from the point of correction, and the previous load is checked for the defects.
20. All loads are numbered and identified by job and run number.
21. Upon completion of job, fill out job jacket and perform line clearance for the next job or run.
22. Record daily production yields in the computer tracking and record downtime and makeready comments.
23. Record production output, press operator, and press identification of appropriate area on the job jacket.

In a small shop, these tasks may all be performed by one person (press operator). In a larger shop, more than one person may have specific responsibilities (supervisor, lead press operator, feeder operator, floor help, etc.). Clearly state who is to perform the task and include when it is to be done—during pre-makeready or makeready.

If the SOP becomes too long or complicated, consider breaking the makeready SOP into smaller SOPs by job title or responsibility. The term pre-makeready refers to tasks that can be performed while the press is running. Pre-makeready activities greatly increase efficacy and reduce actual makeready times. Pre-makeready tasks include gathering and staging as much of the information and materials—such as plates, inks, stock, job ticket—as possible while the press is running the current job.

Makeready tasks are done when the press is stopped. Tasks done during makeready increase the makeready time when the press is not running and making money. If you get into a more detailed procedure, be certain to include safety information such as using stop buttons, having guards in the proper position, etc. Including safety procedures not only educates and reinforces safety protocols, it helps protect your employees and company.

ARE YOU OVER-INSPECTING INSTEAD OF PREVENTING ERRORS?

Howie Fenton, Vice President, Consulting Services, IMG

Do you suspect that production makes too many mistakes? Do you cringe when you hear, "We had a problem and had to re-run a job"? Have you ever seen a month's worth of profits wiped out by a single mistake?

If you answered "yes" to any of those questions, then this article is for you.

INSPECTION POINTS AND ERRORS PRESENT

	Percent Correct/Percent Incorrect	Percent Correct/Percent Incorrect
	Company	Industry
Before Prepress Inspection	60% / 40%	80% / 20%
After Prepress Inspection	70% / 30%	90% / 10%
After Plate Room Inspection	80% / 20%	95% / 5%

In the past, I have discussed process control and rework. But as far as we know, no one has ever attempted to benchmark errors caught in three consecutive quality control checks in prepress and the plate room. For a recent assignment, we had to compile data from different companies resulting in this first attempt.

Over-Inspection Is Not Good

The term "Before Prepress Inspection" refers to errors caught in preflight and prepress before work is imposed. The expression "After Prepress Inspection" refers to errors caught after imposition but before plate making. Lastly, the expression "After Plate Room Inspection" refers to errors caught after plates are made but before they are mounted on the press.

There is a strange phenomenon we see in some companies that we call "over-inspection." We would define over-inspection as having multiple people looking for the same mistakes in several consecutive steps and not catching them. The motivation for over-inspection is always the same—there are too many mistakes discovered late in the process, costing the company money and jeopardizing customer relationships.

The root cause analysis often stems from four reasons for the errors:

1. Communication errors between staff.
2. Lack of standard operating procedures.
3. A culture of, "Hurry up. Get it done. Do whatever it takes."
4. A lack of process control to ensure that errors are avoided instead of caught and repaired.

Ironically, one would assume that companies using the most inspection steps would see the fewest errors, but just the opposite is true. Companies with the highest rework often create exorbitant inspection procedures and long checklists for multiple production steps, because they don't make it right the first time. If this sounds familiar, then you may want to consider a process or quality control initiative.

Howie Fenton is the Vice President of Consulting Services for IMG. He helps in-plant and commercial printers measure, identify, and overcome operational issues. To learn more about measuring performance, benchmarking to leaders, increasing productivity, and improving your value, email hfenton@imgresults.com.

WHAT IS A HAZARDOUS WASTE?

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As a result of conducting its business, a printing operation may generate wastes that are classified as hazardous. Improperly classified wastes expose printers to excessive costs and liability, ranging from enforcement actions such as fines, cleanup costs associated with Superfund liability, and in extreme cases, criminal enforcement.

This article is designed to provide information on how to determine the classification of waste as hazardous under the federal regulations. These regulations were developed as a result of the passage of the Resource Conservation and Recovery Act signed into law in 1976. It is important to recognize that some states have differing definitions of hazardous or other regulated wastes. However, all states must, as a minimum, include all of the wastes defined as hazardous under the federal regulations. For example, the state of Massachusetts and California regulate waste oil as a "state only" hazardous waste, while the EPA does not classify it as a hazardous waste.

Waste Determination

The first and most important step is to determine whether a spent material is, in fact, a waste. While this may seem to be obvious, the regulation's definition of a waste is quite detailed and somewhat confusing. Essentially, a waste is any solid, liquid, or contained gaseous material that is no longer used and is either recycled, thrown away, or stored until sufficient quantities are accumulated for treatment or disposal. If a waste is used "as is" without treatment, it is not considered a waste, and therefore it cannot be a hazardous waste.

After the material is determined to be a waste, it must be evaluated relative to its ingredients and physical characteristics. A waste is classified as a hazardous waste in one of two ways:

1. It exhibits any of the characteristics specified by EPA regulations.
2. It is specifically listed as a hazardous waste in EPA regulations.

Characteristic Wastes

A waste is considered hazardous if it exhibits one or more characteristics identified in the federal regulations. The characteristics are:

- **Ignitability** (Waste Code D001): A liquid (except solutions containing less than 24% alcohol) that has a flash point below 140°F (60° C); a non-liquid capable of spontaneous and sustained combustion under normal conditions; an ignitable compressed gas; or an oxidizer.

Corrosivity (Waste Code D002): An aqueous material with a pH less than 2.0 or greater than or equal to 12.5 or a liquid that corrodes steel at a rate greater than ¼ inch per year at a temperature of 130°F (55°C).

Reactivity (Waste Code D003): A material that is normally unstable and reacts violently without detonating; forms an explosive mixture with water; generates toxic gases, vapor, or fumes when mixed with water; or contains cyanide or sulfide and generates toxic gas vapors or fumes at a pH between 2.0 and 12.5.

Toxicity (Waste Codes D004-D043): Material that contains specific toxic contaminants above threshold levels. Testing of wastes needs to use the Toxicity Characteristic Leaching Procedure (TCLP).

Listed Wastes

A waste is considered hazardous if it appears on any one of the four hazardous waste lists (F, P, K, or U) contained in the federal regulations. Wastes falling under these lists have been classified as hazardous because they contain toxic constituents that are harmful to health and/or the environment. EPA regulations specifically list over 400 hazardous wastes, including specific wastes derived from manufacturing processes and discarded commercial chemical products.

The most common listed wastes generated by printing operations are F-listed ones. Understanding the F-listed category can be challenging. In order for a waste to be classified, it must contain a total of 10% or more (by volume) of one or more of the chemicals listed in that category. For example, a waste solvent blend containing 10% methylene chloride and 90% water would be classified as an F002 waste.

For the F003 category there are two ways it can be classified. A waste must either be 100% of any of the chemicals in the F003 category or contain one of the chemicals in that category and 10% or more of any chemicals in the other categories. Any waste chemical in the category originally used as a "technical grade" is also considered 100%. For example, a waste solvent blend containing 5% xylene, 15% methylene chloride, and 80% water would be classified as an F003 and F002 hazardous waste. However, a waste solvent blend containing 25% xylene, 5% methylene chloride, and 70% water would not be classified as an F-listed waste. The methylene chloride present is less than 10% of the mixture.

Depending upon the flash point of the waste, it could be still classified as a hazardous waste. If the flash point is below 140° F, then it would be an ignitable hazardous waste (D001). It should also be noted that the

waste could be characteristically toxic, depending on the cleaner and/or residues removed by the cleaner.

The list of F wastes and their components are as follows:

- F001—The following spent halogenated solvents used in degreasing: tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, and chlorinated fluorocarbons; all spent solvent mixtures/blends used in degreasing containing, before use, a total of 10% or more (by volume) of one or more of the above halogenated solvents or those solvents listed in F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.
- F002—The following spent halogenated solvents: tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, ortho-dichlorobenzene, trichlorofluoromethane, and 1,1,2-trichloroethane; all spent solvent mixtures/blends containing, before use, a total of 10% or more (by volume) of one or more of the above halogenated solvents or those listed in F001, F004, or F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.
- F003—The following spent non-halogenated solvents: xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, *n*-butyl alcohol, cyclohexanone, and methanol; all spent solvent mixtures/blends containing, before use, only the above spent non-halogenated solvents; and all spent solvent mixtures/blends containing, before use, one or more of the above non-halogenated solvents, and, a total of 10% or more (by volume) of one or more of those solvents listed in F001, F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.
- F004—The following spent non-halogenated solvents: cresols and cresylic acid, and nitrobenzene; all spent solvent mixtures/blends containing, before use, a total of 10% or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.
- F005—The following spent non-halogenated solvents: toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, benzene, 2-ethoxyethanol, and 2-nitropropane; all spent solvent mixtures/blends containing, before use, a total of 10% or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002, or F004; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.

Hazardous Waste Determination

It is the *printer's* responsibility to determine whether the wastes they generate are hazardous as well as the subsequent classification that is to be assigned to the waste. The EPA allows for two approaches to determine if a waste is hazardous:

1. The generator can "apply knowledge."
2. The generator can test the waste using a variety of methods.

Applying knowledge of the physical characteristics of a chemical and how it is used in a given process is the most cost-effective method of hazardous waste determination. Under this approach, a material's physical characteristics and its use determine whether the waste is hazardous. Safety Data Sheets (SDSs) are commonly used for this determination. If a material is chemically unchanged (e.g., uncontaminated ink), the SDS is representative of the material as a waste. The SDS will identify the flash point of a material, and if it is 140° F or lower, it would be classified as ignitable and would have a waste code designation of D001. If the pH is less than or equal to 2.0, or greater than or equal to 12.5, it is corrosive and gets a designation of D002. The SDS can also be used to compare the ingredients to the "listed" hazardous wastes.

In using the applying knowledge approach it is important to note that few waste streams are solely composed of the uncontaminated material itself. Typical waste streams are mixtures of several waste products. For example, waste press cleaning solvent will actually be a mixture of solvent and ink. Therefore, when the applying knowledge approach is used, remember the hazard classification needs to take into account the entire waste mixture and not just one of the ingredients.

If the applying knowledge review is inconclusive, *testing* should be performed to be certain of the waste's classification. In some cases, when it is likely to be non-hazardous, testing is performed to verify the analysis. This testing could then be used as part of the data that is used in the "applying knowledge" review of subsequent wastes generated from the same input materials and processes.

Testing the waste, although costly, can provide specific results to determine if a waste is hazardous. The types of tests commonly used are flash point, pH, and TCLP. TCLP contains specific testing procedures that must be followed, and the ones used depend upon the physical state of the particular waste being analyzed. TCLP will be used to determine heavy metal content and the concentration of certain other organic chemicals.

Regardless of the approach, a waste profile for each waste stream discarded, disposed, or recycled on-site should be prepared. In some instances, waste vendors will prepare these profiles. Any profile generated by a waste vendor should be reviewed to ensure that it is accurate.

Common Waste Streams Generated by Printing Operations

In reviewing hazardous wastes produced by printers, the most common wastes generated exhibit one or more of the four characteristics. Of the

characteristic wastes, D001 or ignitables are the most prevalent due to spent cleaning solvents with flash points below 140°F.

Summary and Conclusion

It is the printer's responsibility to properly characterize and manage their waste streams, including hazardous waste. This is why it is critical that printers understand the definition of a hazardous waste. Classifying nonhazardous wastes as hazardous increases liability and disposal costs. Hazardous waste carries additional concerns in that improper classification, management, and disposal can lead to enforcement actions. It is also essential to recognize that some states regulate certain wastes as hazardous per state waste regulations. Accordingly, the printer needs to understand both the federal definition of waste and what additional wastes the state defines as hazardous. Adoption of appropriate disposal techniques and employing permanent treatment methods will help reduce liability to the greatest possible extent. However, a printer's liability for waste can never be completely eliminated.

COMMON WASTE STREAMS GENERATED BY PRINTING OPERATIONS

Waste Stream	Hazardous (Yes or No)	Why	Waste Code
Uncontaminated lithographic ink	No	N/A	N/A
Solvent and lithographic ink mixture if there is more solvent than ink	Yes	Flash point less than 140°F	D001
Solvents and chemicals such as blanket and roller washes, cleanup solvents, isopropyl alcohol, inkjet inks	Yes	Flash point less than 140°F	D001
Solvent-contaminated wipes that are saturated and being thrown out for disposal	Yes	Flash point less than 140°F (If the solvent has a flash point less than 140°F)	D001
Solvent-contaminated shop towels sent out to be laundered	No	Laundered towels not considered a waste since they are cleaned & returned	N/A
CTP plate processing chemicals being sent off site for disposal, depending on their pH	Yes	pH is lower than 2.0 or greater than 12.5	D002
Acids, waste battery acid, and alkaline cleaners, depending on their pH	Yes	pH is lower than 2.0 or greater than 12.5	D002
Waste film fixer or direct-to-plate silver halide chemistry being sent off site	Yes	Silver concentration greater than 5 ppm	D004-D043
Parts washer	Yes/No	Dependent upon solvent. If flash point is less than 140°F, then the code D001 is used. The solvent should not have any chlorinated chemicals and have the waste code D039.	N/A or D001
Waste oil	Usually no	Check with your state to determine if oil is a hazardous waste as some states regulate used oil as a hazardous waste.	N/A
Empty aerosol cans	No	An aerosol container emptied by conventional means is not considered hazardous.	N/A
Full aerosol cans	Yes	Unless the can is empty, it is considered a hazardous waste.	D001

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2016 BEST WORKPLACES

KEY HUMAN RELATIONS METRICS

Adriane Harrison, Human Relations Specialist, Printing Industries of America

It is very challenging to run a successful business. There are countless things to think about *right this minute* and ten times more to think about "later." The only way to meet the challenges is to assemble a team to keep all of the pieces of the business on target. But the questions always arise: How to recruit members of the team? How to keep them motivated? How to get them to stay? Many companies in the print industry have figured out the formula for success and are being recognized for their efforts.

The Best Workplace in the Americas is a rigorous program that awards companies in the print industry for providing an exceptional work environment. The contest is voluntary—companies that believe they provide an excellent work environment compete to earn a Best Workplace designation. Among the companies entered, a select few are designated "Best of the Best" because of their superior performance.

The entrants are judged by experienced professionals across three size categories. Each company is scored based on eight different metrics.

Management Practices

This category asks if staff and managers receive harassment training, whether a disaster plan is in place, and whether there is a violence policy. Judges consider the clarity of job descriptions and if performance management is in place. Workplace diversity is also examined relating to women and minorities in staff and management ranks.

Work Environment

This category looks at job stability. It measures both voluntary and involuntary employee turnover, and the judges consider whether a reduction in force has occurred.

Training

Training employees can make a tremendous difference in the turnover rate for a company and has been linked to high levels of loyalty, employee satisfaction, and other positive outcomes. The BWA judges look at a company's training and cross training opportunities. Judges also determine whether employees are reimbursed for educational opportunities outside of the workplace. Another criteria is whether supervisors receive training on important topics related to all aspects of printing company management. Importantly, judges also assess whether there has been succession planning for senior management, key managers, and staff in key roles.

Employee Recognition and Rewards

This metric gauges whether employees are being recognized for their service to the company and how that recognition takes place.

Safety

Print shops have hazards, so ensuring employee safety is crucial. Judges look at injury and illness rates, and whether important safety training has been completed. Trainings considered are electrical safety, lockout/tagout, personal protective equipment, and others.

2016 BEST WORKPLACES IN THE AMERICAS

The Best of the Best: Small Company
- Vox Printing, Oklahoma City, OK
- Syracuse Label & Surround Printing, Liverpool, NY

The Best of the Best: Medium Company
- Suttle-Straus, Inc., Waunakee, WI
- Phototype Engraving Co., Cincinnati, OH
- Disc Graphics, Inc., Hauppauge, NY
- Hopkins Printing, Columbus, OH
- Mosaic, Cheverly, MD
- Transcontinental Robbie Inc., Lenexa, KS

The Best of the Best: Large Company/Multi-Plant
- Smyth Companies, LLC, St. Paul, MN
- American Packaging Corporation, Rochester, NY
- Weldon, Williams, & Lick, Inc., Ft. Smith, AK

Best Workplace: Small Company
- Runbeck Election Services, Inc., Tempe, AZ
- SeaChange Print Innovations, Plymouth, MN
- Sundance Press, Tucson, AZ
- Digital Print Solutions, Richfield, OH
- Elk Grove Graphics, Elk Grove Village, IL

Best Workplace: Medium Company
- Boutwell, Owens & Co., Fitchburg, MA
- CRW Graphics, Pennsauken, NJ
- Midland Information Resources, Davenport, IA
- The John Roberts Company, Minneapolis, MN
- Communicorp, Inc., Columbus, GA
- Tailored Label Products, Menomonee Falls, WI
- Allen Press, Inc., Lawrence, KS
- GPA Acquisitions Inc., McCook, IL
- Mossberg & Company Inc., South Bend, IN
- Bang Printing, Brainerd, MN
- Royle Printing, Sun Prairie, WI
- MBI, Inc., Deland, FL

Best Workplace: Large Company
- SmartPractice, Phoenix, AZ
- Inland, La Crosse, WI
- Worzalla, Stevens Point, WI
- Hammer Packaging, Rochester, NY

MANAGEMENT PRACTICES

	Sexual Harassment (SH) Training	Mgt. SH Training	Disaster Plan	Violence Plan	Job Descriptions	Performance Appraisals
Small	86%	86%	71%	86%	86%	100%
Medium	74%	74%	95%	100%	95%	95%
Large	89%	89%	89%	100%	100%	100%
All Firms	80%	80%	89%	97%	94%	97%

SAFETY AND HEALTH

	Injury/Illness Rate
Small	2.0%
Medium	1.6%
Large	3.2%
All Firms	1.7%

HEALTH AND WELLNESS

	Single Coverage/ Medical Offered	Single Dental	Single Vision	Long-Term Disability	Short-Term Disability
Small	100%	86%	57%	71%	71%
Medium	100%	89%	83%	89%	89%
Large	100%	100%	100%	100%	100%
All Firms	100%	93%	80%	88%	88%

TRAINING AND DEVELOPMENT

	Formal Cross Training	Avg. % of Employees Cross Trained
Small	71%	85%
Medium	100%	83%
Large	89%	85%
All Firms	91%	85%

Health and Wellness

In this category, judges consider what health benefits are offered to the employees, and whether any wellness opportunities are available, such as smoking cessation programs, Employee Assistance Plans, Dependent Care Accounts, Health Savings Accounts, and others. Not only is the availability considered, but also to what degree the companies contribute financially toward these benefits.

WORK ENVIRONMENT

	Voluntary Turnover Rate	Involuntary Turnover	Total Turnover
Small	4.3%	3.8%	8.1%
Medium	7.1%	5.5%	12.6%
Large	7.9%	3.7%	11.6%
All Firms	7.1%	4.5%	11.6%

WORK/LIFE BALANCE

	Picnic	Child/School Leave	# of Paid Holidays	Community Activity Program
Small	71%	71%	8.9	100%
Medium	94%	72%	9.0	83%
Large	89%	33%	9.0	100%
All Firms	88%	62%	9.0	91%

FINANCIAL SECURITY

	Offer 401(k) or Other Retirement Plan	Avg. Employee Contribution
Small	71%	4.8%
Medium	89%	5.6%
Large	67%	6.7%
All Firms	80%	5.7%

RECOGNITION AND REWARDS

	% Employees Eligible for Incentive Plan	% Workforce Recognized
Small	98%	92%
Medium	100%	100%
Large	100%	43%
All Firms	100%	97%

Financial Security

Here, the judges look at retirement savings opportunities and other financial programs such as credit unions, prepaid legal service plans, life insurance, employee stock options, and others.

Work/Life Balance

This is where the demands of the job and how they impact families is considered. This metric includes telecommuting policies and paid time off, including holidays, sick leave, and vacation time. In addition, the ability to include family in work-based programs such as a company picnic, leave for children's school activities, company-sponsored charitable and community work, and other family and community friendly activities is considered.

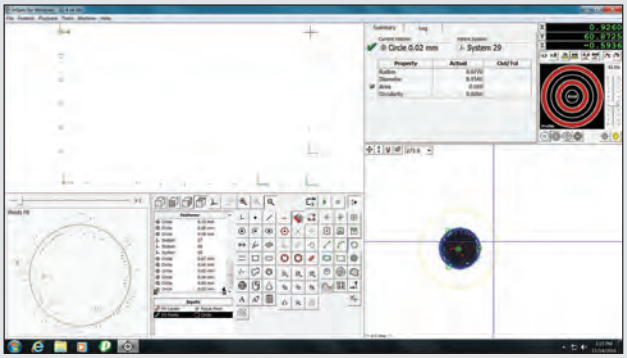
A Best Workplace in the Americas award affirms that a company is at the forefront of providing exceptional workplaces. The Best of the Best Workplaces are extraordinary in their efforts to create a superior workplace. These winners proudly announce their success, and as a result, are better able to recruit and retain employees and can demonstrate to customers that they are the best in their class. Learn more at printing.org/bwa.

New Measurement Capability Added to PIA Lab

Printing Industries has acquired a Micro-Vu precision video camera measuring system that will enable the Paper and Ink Laboratory to perform precise measurements of printing samples submitted for evaluation. The machine will also be used extensively in the manufacturing of the quality control products PIA provides to industry firms.

The bed of the Micro-Vu is capable of measuring samples up to 12.4 × 21.4 inches, and up to 6.3 inches high. The machine is accurate to approximately 3 microns (or three-millionths of a meter). The video camera has the ability to magnify up to 819 times. Micro-Vu's InSpec Metrology Software provides sophisticated edge detection, advanced LED lighting control and calibration, and a clear display of measurement data and tolerances. When performing measurements on multiple samples, the software can run measurement programs unattended.

The PIA staff is learning the system's impressive functionality. If you have a need for precise measurements of dots, lines, area, and other attributes, please contact Jim Workman at jworkman@printing.org or 412-259-1710.



The new Micro-Vu is capable precise measurements down to 3 microns.

MARKETING MINUTE

What are you doing to prepare for the New Year? As 2016 draws to a close, many business owners use this time to reflect on how the year has affected their business, what promotions were used to market their services, and which were successful in creating new profits. On the other hand, this time of the year could also be used to look at your competition and see how the past year treated them as well.

In the December Marketing Minute exercise, we're giving you tips on how to conduct a useful competitive analysis in terms of marketing strategies. Visit this page to begin **http://prnt.in/MM1612.**

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