The addition of a Responsibilities Section to the American National Standard for Concrete Pumping (ASME B30.27)

THERE’S AN AMERICAN NATIONAL STANDARD FOR CONCRETE PUMPING SAFETY?

An introduction to the ANSI safety standard for the manufacture, inspection, maintenance, and use of material placement systems.

(Material Placement Systems = Concrete Pumps and Concrete Conveyors)

Material Placement Systems


It’s scope includes:

- Concrete Pumps
- Concrete Pump Placing Booms
- Concrete Conveyor Systems
- Pipe and system components
When pumping was widely introduced to American contractors in the early 1970’s, there was no standard whatsoever for the machines or processes. Every time there was an accident, plaintiff attorneys looked for a standard to use as a guide for proper practices. Because most pumps had a boom and outriggers, they tried to tell judges and juries that they were cranes, and hold us accountable to the requirements of B30.5. Sometimes juries bought it, sometimes they didn’t.

How did it come to be?

If it quacks like a duck...

Meanwhile, out on the jobsite..
Meanwhile, out on the jobsite...

In 1995, my boss assigned to me the job of organizing the manufacturers to standardize safety systems and rules. The Concrete Pump Manufacturers Association (CPMA) is formed. Its mission is the development of an American National Standard for safety applying to the pumping industry. CPMA 27-2000, is developed as a draft industry standard, based upon PrEN 12001, the European draft standard for concrete pump safety.

Time to Do Something

In December, 1999, the CPMA draft standard is brought to the American Society of Mechanical Engineers (ASME) B30 committee. (B30 is the safety standards-development committee for all crane devices, including jacks, gantry cranes, tower cranes, mobile cranes, helicopter lifts, junkyard magnet-crane, etc.) Because they don’t know anything about pumping, B30 agrees to take on only the boom and support-structure part of concrete-pumping machines.

Bringing it to ASME
In 2004, the first version of B30.27 (Material Placement Systems) is passed. In early 2005, it is accepted by ANSI as an American National Standard. It is published in 2005, and has no provisions for the pumping aspects of the machines. Because of that, CPMA 27-2000 (now at version 6) remains in effect to cover the pump section of the machines.

By the time the 2005 version of the standard is published, the B30.27 subcommittee is an established entity, with an experienced membership. We immediately begin work on the 2010 publication, including the pumping elements. The current standard is accepted by ANSI in late 2008 and published a year early, in June, 2009.

In 2014, it will affect the rest of the players on a concrete pour, too.
You NEED to know some of this info

It is advisable to obtain a copy and implement any changes necessary to ensure compliance with the specifications.

Why?

It is assumed that the specifications will be used by regulatory (OSHA) and legal entities (plaintiff attorneys) as a benchmark against which entities on a jobsite will be judged.

Short Overview: The Elements of B30.27

Introduction
Chapter 0: Scope, Definitions, and References
Chapter 1: Construction and Installation
Chapter 2: Inspection, Testing, and Maintenance
Chapter 3: Operation

Introduction

• The scope of the entire B30 standard (now at 29 volumes), with scope exclusions
• The purpose of the volume
• Use by regulatory agencies
• Effective date
Introduction

- Requirements and recommendations (should versus shall)
- Use of measurement units
- Requests for revisions
- Requests for interpretation
- Additional guidance

Chapter 27-0
Scope, Definitions & References

- **Scope**
  - The volume states what it covers.
  - Most notably, it excludes mortar machines, dry-mix shotcrete machines, and the conveyor portion of the concrete conveyor-type machines (which are covered under ASME B20).

Scope, Definitions & References

**Definitions.** This section defines terms used in the volume that have specialized meanings other than standard dictionary meanings.

Two significant definitions in the 2009 edition:
- **Designated Person:** a person selected or assigned by the employer or the employer’s representative as being competent to perform specific duties;
- **Qualified Person:** a person who, by possession of a recognized degree in an applicable field, or certificate of professional standing, or who by extensive knowledge, training, and experience, has successfully demonstrated the ability to solve or resolve problems relating to the subject matter and work.
Scope, Definitions & References

References
This section lists all documents that are referenced in the standard. To fully comply with the standard, you may need to review some of these other documents. Most are aimed at the manufacturer, not the end-user. One notable exception:

ANSI Z-244.1
Lock-out, Tag-out of Energy Sources—Minimum Safety Requirements

Chapter 27-1
Construction and Installation

This Chapter describes the requirements for manufacturing the machines and accessories including:

• Markings for placing booms, the material placement system, delivery pipes, elbows, hoses, and accessories
• Requirements for the safety signs, the hand signals, and the markings of any integrated air compressors
• The structural and stability requirements of the placing boom and support structure
• The requirements of lifting attachments

Construction and Installation (Continued)

• The requirements for work platforms, access walkways, and gangways
• Requirements for electrical installations
• Ergonomic requirements
• Requirements for the control systems, including emergency stops, outrigger controls, hour meters, joystick movements, and general control requirements
Standardized joystick movements were adopted in the process, so an operator could operate any pump by any manufacturer without having to relearn the joystick controls.

Construction and Installation
(Continued)

- Requirements for guards
- Requirements for tip attachments of placing booms
- Requirements of the delivery system components
- Requirements for the system in the event of power loss
- Requirements for the manuals, the fuel and exhaust systems, the hoppers, and pressure relief systems

Construction and Installation
(Continued)

- All of the requirements of Chapter 27.1 are for machines built AFTER the effective date (in the introduction section). In the case of this standard, the effective date is June 10, 2010.
- A manufacturer’s models that have been certified to be in compliance by a 3rd party audit will display this tag.
Inspections are broken into two classifications:

- Initial inspection (done by the manufacturer at the factory)
- Frequent and Periodic inspections (done by the owners and/or the end-users)

Frequent inspections can be done by anyone deemed competent by management. Typically, the operator or a shop mechanic is assigned.

Any discrepancies found in the frequent inspection must be evaluated by a person deemed competent to make the evaluation. Competency requirements are defined in different ways between the existing volume (2009) and the upcoming volume (2014).

Parts of the Periodic Inspection are done by a designated person; other parts are done by a qualified person (defined in Chapter 27-0).

The periodic inspection includes items not covered in the frequent inspection—most notably the inspection of the boom and support structure. It is the structural inspection that requires the higher level of inspector qualifications.
The Periodic Inspection is required:
For the first 5 years of use—Every 2000 hours, or once a year, whichever occurs first;
• For units 5 to 10 years old—Every 1000 hours, or once per year, whichever occurs first;
• For units 10 years or older—Every 500 hours, or once per year, whichever occurs first.

It is a requirement to keep written, dated records of the Periodic Inspections on file.

Most of the testing requirements affect only the manufacturer, with one exception: The post-maintenance test.

It reads: "Before being returned to service after maintenance is performed, any altered, replaced, or repaired components shall be tested for proper operation per the manufacturer’s recommendations."

Simply put, repairs must be tested before the machine hits the jobsite.

The manufacturer is required to provide a recommended preventive maintenance schedule. The end-user MUST develop a maintenance program based upon the supplied maintenance schedule.

• Dated maintenance records must be kept on file;
• Maintenance must be done by a designated person (2009 version) (which, by definition, implies competency)
Chapter 27-3

Operation

This is the chapter that most affects the owners and users of concrete pumping equipment.

- Who is allowed to operate?
- Qualifications of Operators
- Conduct of Operators
- Operating Practices
- Operating Near Electric Power Lines
- Cleaning Pipeline
- Knowledge of Manual Content

In 2014 version — add RESPONSIBILITIES to this chapter

Operation

Lockout/Tagout

The owner and/or user of the concrete pump or placing boom must develop a lockout/tagout program that complies with the requirements of ANSI Z244.1.

- Material placement systems may have multiple sources of power and stored energy. All must be isolated to prevent serious injury.
- The manufacturer is required to supply information about how to lock-out a particular model machine.

Operation

Shortrigging

Boom use without fully extended and jacked outriggers (shortrigging) is explained, and restrictions are applied.
The regulations for minimum distance from power lines has recently changed for all cranes. Although pumps were excluded from the C-Dac regulations, the pumping industry decided to adopt the distances to standardize jobsite requirements. The next publication of the standard reflects the new distances (20 feet from 100 volts to 350,000 volts, 50 feet above 350 Kv), but the new distances are ALREADY in effect. The existing standard shows the old regulations.

You must use the standardized hand signals, unless voice communication is established. Anytime you need to give instructions to the operator other than standard signals, the machine must be stopped.

The existing standard has many items for manufacturers, not so many for end-users, but... You will be judged against what is there in the event of an incident. Only a very bad plaintiff attorney would not discover the existence of B30.27 when preparing a lawsuit.

There are several changes to the standard for the 2014 publication date. (The standard is on a five-year cycle, and is republished with changes when the cycle finishes.)
Changes for 2014 Publication—

- Add translation requirements
- Delete specialized definition of ‘designated.’
- Add competency requirement
- Add definition of ‘signal-person’
- Clarification of what is meant by ‘supervision’ for trainees
- Changing of the 17 foot rule to new C-DAC regulation
- And, of course...the addition of RESPONSIBILITIES!

2014 Changes: Translation Requirements-Why?

Control marking on an imported crane:

“Rear of second half department that bring up the hand handle can operate.”

27.1.14 TRANSLATION OF NON-ENGLISH DOCUMENTATION INTO ENGLISH

(a) The wording of non-English Safety information and manuals regarding use, inspection, and maintenance shall be translated into English by professional translation industry standards, including, but not limited to:

1. Translation of the complete paragraph message, instead of word-by-word;
2. Grammatically accurate;
3. Respectful of the source document content without omitting or expanding the text;
4. Translate the terminology accurately;
5. Reflect the level of sophistication of the original document.

(b) The finished translation shall be verified for compliance with paragraphs 27.1.14.a.1 through 27.1.14.a.5, by a qualified person having an understanding of the technical content of the subject matter.

(c) Pictograms used to identify controls shall be described in the manuals. The pictograms should comply with ISO 7000, ISO 7295, or other recognized source, if previously defined. The text of the description shall meet the criteria of paragraphs 27.1.14.a.1 and 27.1.14.a.2.

(d) Any non-English documentation provided in addition to English shall be translated and reviewed in accordance with the requirements listed above.
Changes

Competency Gets Its Own Paragraph

In earlier versions, the term ‘designated person’ had a competency factor built into its definition. As a global change to all B30 volumes, the specialized definition is deleted (goes back to dictionary definition) and this paragraph is added:

(2014 version) 27-0.4 Personnel Competence

Persons performing the functions identified in this volume shall meet the applicable qualifying criteria stated in this volume and shall, through education, training, experience, skill, and physical fitness, as necessary, be competent and capable to perform the functions as determined by the employer or employer’s representative.

Changes: Spotter and Signalperson defined

In earlier versions, signalperson and spotter were considered the same thing. For 2014, they’ve been defined as different people:

signalperson: a person positioned at a vantage point where both the point of discharge and the operator of the material placement system can be seen, and who relays operational signals to the operator.

spotter: a person positioned at a vantage point where the distance between a hazard and the material placement system can be clearly seen and evaluated, and the material placement system’s operator can be alerted if a predetermined safety distance is compromised.

Changes: Supervision of Trainees

As a global change to all B30 volumes, what it means to supervise a trainee has been expanded to give instruction to those trying to comply:

Trainees shall be under the supervision of a designated person. The number of trainees permitted to be supervised by a single designated person, the physical location of the designated person while supervising, and the type of communication required between the designated person and the trainee shall be determined by a qualified person.
Prior to operating near energized electric power lines (excluding extension cords, power cables to equipment, insulated lighting feeds, or wires not accessible by the boom or conveyor because of location in a building, covering by conduit, or buried in the earth), determine whether any part of the material placement system or any part of its hanging components could get within:

• 20 feet (6.1 m) of lines rated between 0.1 and 350 kV, or

• 50 feet (15.25 m) of lines rated above 350 kV.

If so, one of the following steps shall be taken:

(a) Verify that the power lines have been de-energized and visibly grounded in accordance with the provisions of 27.3.1.5.5, or

(b) Maintain a 20-foot clearance (for power lines rated at 350 kV or less) or a 50-foot clearance (for power lines rated above 350 kV) from the danger zone as shown in Figure 8, or

(c) Maintain the distances shown in Table 1 if a planning meeting with the appropriate personnel has been conducted prior to the operation. Appropriate personnel will vary according to circumstances, but will always include the operator, the pour supervisor, the spotter, and any personnel who would touch the delivery system while the boom is in near proximity to the power lines.

Figure 8 and Table 1

<table>
<thead>
<tr>
<th>Voltage Range (kV)</th>
<th>Minimum Clearance (Feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.1 - 350</td>
<td>20</td>
</tr>
<tr>
<td>Above 350</td>
<td>50</td>
</tr>
</tbody>
</table>

Note: The clearance values shown do not account for the height of the boom. For more information, see Table 1.
Responsibilities have been added to everyone directly involved in a pour, because a safe pour is not possible unless everyone is doing their part.

Changes: Responsibilities!

Who’s Responsible?

Why are we assigning responsibilities?

The pump operator who first sees the jobsite at 6 a.m. a year after ground-breaking cannot be the safety director for the contractor…but that is the net result of the current situation.

For example, consider these two scenarios:

1) Pump enters the jobsite and asks where to set up. Contractor directs him to a spot. When the outriggers are extended, there’s a septic tank directly under the outrigger foot. The operator cannot see it, and has no way of knowing it’s there. Although the contractor is aware of it, it is not mentioned to the operator.

Who’s Responsible?
2) Pump enters the jobsite and asks where to set up. Contractor directs him to a spot. The operator can see wires directly behind and asks if a different location could work. The contractor's response is: "You have 20 feet here. Maintain it." Operator requests a spotter, but one is not given.

Who's Responsible?

Cranes have had safety standards for decades; most contractors would not have selected this spot for a crane. Unless the operator selects the setup spot, how could this be considered his accident?

Responsibilities! Who gets them?

Who's been given responsibilities?

- The pump/belt owner
- The pump/belt operator
- The pump/belt user
- The site supervisor
- The pour supervisor
- The ready mix company and their drivers
- The placing crew

Example job, to show the various players

Job name: Sampletown

- Rob's Concrete Pumping: Rob Banks owns two pumps and both are working today at Sampletown.
- Johnny's Concrete Contracting: Johnny has a crew of finishers and has won the contract for placing and finishing the concrete at Sampletown.
- BigBox Contractors: The general contractor that hired Johnny's and Rob's.
Example job, showing the various players
Job name: Sampletown

- **Redd Rooster**: Runs the yellow pump; he's employed by Rob's Concrete Pumping.
- **Barry Calm**: Runs the white pump, employed by Rob's.
- **Johnny Walker**: He's the Johnny of Johnny's Concrete Contracting, and is the pour supervisor.
- **The Leadfoot brothers, Huey, Dewey, and Louie**: Finishers employed by Johnny's.

Example job, showing the various players
Job name: Sampletown

- **Harvey Everyman**: The ready mixed concrete driver, employed by GrayMatter.
- **Chip Headstrong**: The site supervisor who works for BigBox Contractors.
- **Randy Noseeum**: The purchasing agent for BigBox; has never been on a jobsite but sometimes watches from his office window.

Sampletown
Responsibilities of Rob Banks, the Pump Owner

Definition of pump owner: has custodial control of a material placement system by virtue of lease or ownership.

27.1.3.1 The material placement system owner’s responsibilities shall include the following:
(a) providing a material placement system that meets the requirements of Chapters 27-1 and 27-2 of the B 30 volume as well as specific job requirements defined by the user;

(b) providing a material placement system and all necessary components, specified by the manufacturer, that meets the user’s requested configuration and capacity;
(c) providing additional technical information pertaining to the material placement system, necessary for material placement system operation, when requested by the material placement system user;
(d) providing operation instructions, maintenance information, and warning decals and placards installed in the locations prescribed by the material placement system manufacturer;
(e) establishing an inspection, testing, and maintenance program in accordance with Chapter 27-2 and informing the material placement system user of the requirements of this program;
(f) using personnel that meet the requirements for competency as defined in paragraph 27-0.4, for inspections, testing, and maintenance as required in Section 27-2;
(g) supplying delivery system, if part of the job scope, in adequate condition for the job requirements.
Responsibilities of Rob Banks, the Pump Owner

(h) communicating to the site supervisor and pour supervisor any and all requirements for the assembly, disassembly, cleaning, storage, security and inspection of the supplied delivery system;

(i) communicating to the site supervisor and pour supervisor any expectations of obtaining prior approval before allowing any other entity to use supplied delivery system;

(j) verifying that any auxiliary equipment is available in working condition when the requirements for that equipment have been communicated by the material placement system owner to the material placement user and the site supervisor;

(i) communicating to the site supervisor and pour supervisor the requirements of the discharge area, restraining devices, training, accessories, and procedures, when using compressed air for cleaning;

(j) ensuring that training for cleaning with compressed air has been completed for any operator who will be cleaning with compressed air.

Responsibilities of Barry Calm (and Redd Rooster), the Pump Operators

Definition of Material placement system operator (pump operator): directly controls the material placement system’s functions.

27.3.1.3.3 Responsibilities of Material Placement System Operators. The operator shall be responsible for the following listed items. The operator shall not be responsible for hazards or conditions that are not under his direct control and that adversely affect the placement operations. Whenever the operator has doubt as to the safety of material placement system operations, the operator shall stop the material placement system’s functions in a controlled manner. Placing operations shall resume only after safety concerns have been addressed.
Responsibilities of Barry Calm, the Pump Operator

27.3.1.3.3.1 The operator’s responsibilities shall include the following:
(a) reviewing the requirements for the placing job with the pour supervisor before operations;
(b) knowing what types of site conditions could adversely affect the operation of the material placement system and consulting with the pour supervisor concerning the possible presence of those conditions;
(c) understanding and applying the information contained in the material placement system manufacturer’s operating manual;
(d) understanding the material placement system’s functions and limitations as well as its particular operating characteristics;
(e) refusing to operate the material placement system when any portion of the material placement system would enter the danger zone of energized power lines except as defined in paragraph 27.3.5.6.2;
(f) performing a frequent inspection as specified in paragraphs 27.2.1.2;
(g) promptly reporting to a designated person the need for adjustments or repairs;
(h) following applicable lockout/tagout procedures;
(i) not operating the material placement system when physically or mentally unfit;
(j) following procedures to ensure that the danger of hose whipping is minimized;
(k) not engaging in any practice that will divert attention while operating the material placement system controls;
(l) testing the material placement system function controls prior to beginning operations and not proceeding if it creates a hazardous condition;
Responsibilities of Barry Calm, the Pump Operator

- (m) operating the material placement system’s functions, under normal operating conditions, in a smooth and controlled manner;
- (n) knowing and following the procedures specified by the manufacturer or approved by a qualified person, for assembly, disassembly, and setting up the material placement system;
- (o) observing each outrigger during extension, setting, and retraction or using a signalperson to observe each outrigger during extension, setting, or retraction:

Responsibilities of Barry Calm, the Pump Operator

- (p) knowing the standard and special signals as specified in Section 27-3.3 and responding to such signals from the signalperson who is directing the machine operation. The operator shall obey a stop signal at all times, no matter who gives it;
- (q) before leaving the material placement system unattended, follow the manufacturer’s recommendations for securing the unit;
- (r) not using a concrete delivery hose as an end hose unless an anti-hose whipping device is properly installed:

Responsibilities of Barry Calm, the Pump Operator

- (s) complying with the training required by paragraph 27-3.1.3.1.1 (m) when using compressed air for cleaning;
- (t) ensuring that any delivery system removed from the placing line is cleaned to prevent blockages;
- (u) knowing that the decision whether or not to add water to the material belongs only to the site supervisor or pour supervisor;
- (v) informing the pour supervisor of the proper steps to be taken if air or foreign material has entered the hopper.
Responsibilities of Randy Noseeum, the Material Placement System User

Definition of Material Placement System User:
orders the material placement system's presence on a worksite and controls its use there.

Responsibilities of Randy Noseeum, the Material Placement System User

In Many cases, the machine is ordered by the Pour Supervisor or the Site Supervisor, and there is no 'Randy Noseeum' person. The user's responsibilities then go to those people, in addition to their other responsibilities.

Responsibilities of Randy Noseeum, the Material Placement System User

27-3.1.3.1 Responsibilities of the Material Placement System Owner and Material Placement System User.
In some situations the owner and the user are the same entity and is therefore accountable for all of the following responsibilities. In other cases, the user may lease or rent a material placement system from the owner without supervisory, operational, maintenance, support personnel, or services from the owner. In those situations, paragraphs 27-3.1.3.1.1 and 27-3.1.3.1.2 shall apply:
Responsibilities of Randy Noseeum, the Material Placement System User

27.3.1.3.1.2 The material placement system user’s responsibilities shall include the following:

(a) complying with the requirements of this Volume, manufacturer’s requirements, and those regulations applicable at the worksite;

(b) using supervisors for material placement system activities that meet the requirements for a qualified person as defined in paragraph 27-0.2.2;

(c) training the material placing crew in the recognition of and avoidance of hazards when working with and near a material placement system;

(d) training personnel assigned to the pump in the recognition of and avoidance of hazards when working with and near a material placement system;

(e) using material suppliers that have trained their personnel in the recognition and avoidance of hazards when working with and near material placement systems;

(f) ensuring that the area for the material placement system is adequately prepared. The preparation includes, but is not limited to, the following:

(1) access roads for the material placement system, material delivery to the material placement system, and access for other associated equipment;

(2) sufficient room to assemble and disassemble the material placement system;

(3) an operating area that is suitable for the material placement system with respect to levelness, surface conditions, support capability, proximity to power lines, excavations, slopes, underground utilities, subsurface construction, and obstructions to material placement system operation;

(4) traffic control as necessary to restrict unauthorized access to the material placement system’s working area.
Responsibilities of Randy Noseeum, the Material Placement System User

(g) using material placement system operators who meet the requirements of paragraphs 27-3.1.1 and 27-3.1.2(f) and are qualified to perform the tasks that will be required with the material placement system to which they are assigned to operate;
(h) informing the material placement system owner of the presence of power lines in the proximity of the work area, at the time of ordering;
(i) ordering equipment and delivery system adequate for job requirements;

Responsibilities of Randy Noseeum, the Material Placement System User

(j) providing any auxiliary equipment as communicated by the material placement system owner;
(k) ordering a mix that is compatible with the material placement system ordered;
(l) ordering the delivery of perishable material in a sequence that will prevent blockages in the delivery system;

Responsibilities of Chip Headstrong, the Site Supervisor

Definition of Site supervisor: exercises supervisory control over the work site on which a material placement system is being used and over the work that is being performed on that site.

(If he ordered the pump because there is no Randy Noseeum, then he also has the responsibilities of the USER.)
27.3.1.3.2 Responsibilities of Site Supervisor and Pour Supervisor. In some situations, the site supervisor and the pour supervisor may be the same person.

27-3.1.3.2.1 The site supervisor’s responsibilities shall include the following:
(a) determining if site-specific regulations are applicable to material placement system operations;
(b) ensuring that a qualified person is designated as the pour supervisor;
(c) ensuring that material placement system operations are coordinated with other jobsite activities that will be affected by or will affect placing operations;
(d) ensuring that the area for the material placement system is adequately prepared. The preparation includes, but is not limited to, the following:
(1) access roads for the material placement system, material delivery to the material placement system, and access for other associated equipment;
(2) sufficient room to assemble and disassemble the material placement system;
(3) an operating area that is suitable for the material placement system with respect to levelness, surface conditions, support capability, proximity to power lines, excavations, slopes, underground utilities, subsurface construction, and obstructions to material placement system operation;
(4) traffic control as necessary to restrict unauthorized access to the material placement system’s working area.
Responsibilities of Chip Headstrong, the Site Supervisor

(e) ensuring that material placement system operators meet the requirements of paragraph 27-3.1.2.;

(f) ensuring that conditions that may adversely affect material placement system operations are addressed. Such conditions include, but are not limited to, the following:

(1) power line location;
(2) wind velocity or gusting winds;
(3) heavy rain;

(g) allowing material placement system operation near electric power lines only when the requirements of paragraph 27-3.1.6 have been met.

(h) supplying delivery system, if part of the job scope, in adequate condition for the job requirements;

(i) ensuring that any delivery system left on the job for continuing use is in adequate condition for the job requirements;

(j) performing any stated requirements for the assembly, disassembly, cleaning, storage, security and inspection of the supplied delivery system;
Responsibilities of Chip Headstrong, the Site Supervisor

(i) obtaining prior approval to use delivery system owned by another entity;
(ii) verifying that any auxiliary equipment is available in working condition, when the requirements for that equipment have been communicated by the material placement system owner;
(m) satisfying the requirements of paragraph 27-3.1.3.1.1 (l) when using compressed air for cleaning.

(n) ordering a mix that is compatible with the material placement system ordered;
(o) sequencing the delivery of perishable material to prevent blockages in the delivery system;
(p) determining whether or not to add water to the material;

Responsibilities of Johnny Walker, the Pour Supervisor

Definition of Pour supervisor: directly oversees the work being performed by a material placement system and the associated placing crew.

(If he ordered the pump because there is no Randy Noseeum, then he also has the responsibilities of the USER.)

27-3.1.3.2.2 The pour supervisor’s responsibilities shall include the following:
Responsibilities of Johnny Walker, the Pour Supervisor

(a) being present at the jobsite during placing operations;
(b) allowing material placement system operation near electric power lines only when the requirements of paragraph 27-3.1.4 and any additional requirements determined by the site supervisor have been met;
(c) ensuring that the preparation of the area needed to support material placement system operations has been completed before material placement system operations commence;

(d) ensuring necessary traffic controls are in place to restrict unauthorized access to the material placement system’s work area;
(e) ensuring that personnel involved in material placement system operations understand their responsibilities, assigned duties, and the associated hazards;

(f) addressing safety concerns raised by the operator or other personnel and being responsible if he decides to overrule those concerns and directs material placement system operations to continue. (In all cases, the manufacturer’s criteria for safe operation and the requirements of this Volume shall be adhered to.)
(g) appointing the signal person(s) and conveying that information to the material placement system operator, and ensuring that signal person(s) appointed meet the requirements of Section 27-3.3;
Responsibilities of Johnny Walker, the Pour Supervisor

(a) stopping material placement system operations if alerted to an unsafe condition affecting those operations;

(l) ensuring precautions are implemented when hazards associated with special placing operations are present. Such operations include, but are not limited to, the following:

(1) working at underground job sites;
(2) placing in occupied buildings;
(3) pumping underwater;
(4) operating mobile material placement systems on barges;
(5) placing heavyweight concrete.

Responsibilities of Johnny Walker, the Pour Supervisor

(j) ensuring that any delivery system left on the job for continuing use is in adequate condition for the job requirements;

(k) performing any stated requirements for the assembly, disassembly, cleaning, storage, security and inspection of the supplied delivery system;

(l) obtaining prior approval to use delivery system owned by another entity;

(m) verifying that any auxiliary equipment is available in working condition, when the requirements for that equipment have been communicated by the material placement system owner;

(n) satisfying the requirements of paragraph 27-3.1.3.1.1 (i) when using compressed air for cleaning;

(o) verifying that the material delivered is the same as the material ordered;

(p) verifying that perishable material on the job is within specified time constraints before unloading into the material placement system;
Responsibilities of Johnny Walker, the Pour Supervisor

(q) determining whether or not to add water to the material;
(r) designating a person to oversee the delivery of material into the hopper if the material placement system operator is required to operate away from the machine, and verifying that the designated person knows the proper steps to be taken if air or foreign objects enter the hopper.

Responsibilities of Huey, Dewey, and Louie Leadfoot, the Placing Crew

Definition of The Placing Crew: personnel involved in placing and finishing the material delivered by the material placement system.

Responsibilities of Huey, Dewey, and Louie Leadfoot, the Placing Crew

27-3.1.3.5 Responsibilities of the Placing Crew. The placing crew’s responsibilities shall include the following:
(a) remaining beyond the reach of the discharge hose(s) until directed otherwise by the material placement system operator;
(b) wearing PPE to protect against injury caused by material hazards;
(c) complying with the responsibilities and assigned duties, and avoidance of the associated hazards per paragraph 27-3.1.3.2.2 (e).
Definitions of the Liquid Structural Material Supplier:

- Batches and supplies the material to the material placement system for delivery to the point of placement.

Responsibilities of GrayMatter, the Material Supplier

27.3.1.3.4 Responsibilities of Liquid Structural Material Suppliers. The liquid structural material supplier (typically the ready-mixed concrete supplier) brings the material from the batch plant to the job site. They shall be responsible for the batching, transportation, quality of components, uniformity of components, and delivery into the material placement system. They are not responsible for the design of the mix, unless specifically asked to provide a design.

27.3.1.3.4.1 The liquid structural material supplier's responsibilities shall include the following:

(a) providing a mix consisting of the material components specified;
(b) delivering the material according to the specified time criteria;
(c) training of the liquid structural material supplier drivers about the duties and hazards of working with material placement systems;

GrayMatter's driver, Harvey Everyman has his own specific responsibilities:
Responsibilities of Harvey Everyman, Graymatter’s Driver

27-3.1.3.4.2 The liquid structural material supplier driver’s responsibilities shall include the following:
(a) delivering material into the hopper at a rate sufficient to prevent air from being introduced into the material placement system;
(b) notifying the material placement system operator when their truck is empty, or if air has entered the material placement system;
(c) notifying the material placement system operator if foreign material is discharged with the mix into the hopper;
(d) activating the material placement system emergency stop if unable to communicate with the operator, and air or foreign material has entered the hopper;

Where can I get a copy?

The ASME B30.27-2009 Safety Standard can be purchased in booklet form, or as a PDF download at this address:


ASME B30.27-2014 will come out in print sometime in 2014 and be effective one year later.