

The Effectiveness of Participation in Public and Private Standard Setting

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LIST OF ACRONYMS

AESC	American Engineering Standards Committee
ALI	Automotive Lift Institute
ANPRM	Advanced notice of proposed rulemaking
ANSI	American National Standards Institute
APA	Administrative Procedure Act
APF	Assigned Protection Factor
ASA	Acoustical Society of America
ASC	Accredited standards committee
ASME	American Society of Mechanical Engineers
ASSE	American Society of Safety Engineers
ASTM	American Society of Testing and Materials
AWS	American Welding Society
BSI	B11 Standards, Inc.
CEMA	Conveyor Equipment Manufacturers Association
CFR	Code of Federal Regulations
CPSC	Consumer Product Safety Commission
E.O.	Executive Order
EIA	Electronic Industries Alliance
FMVSS	Federal Motor Vehicle Safety Standards
FR	Federal Register
FTC	Federal Trade Commission
IES(NA)	Illuminating Engineering Society (North America)
ISA	International Society of Arboriculture
ISANTA	International Staple, Nail, and Tool Association
ISEA	International Safety Equipment Association
ISO	International Organization for Standardization
ITSDF	Industrial Truck Standards Development Foundation
IWCA	International Window Cleaning Association
LIA	Laser Institute of America
MSHA	Mine Safety and Health Administration
NARA	National Archives and Records Administration
NEMA	National Electrical Manufacturers Association
NFPA	National Fire Protection Association

NIST	National Institute of Standards and Technology
NPES	Association for Suppliers of Printing, Publishing and Converting Technologies
NPRM	Notice of proposed rulemaking
NSC	National Safety Council
NTTAA	National Technology Transfer and Advancement Act of 1995
OMB	Office of Management and Budget
OPEI	Outdoor Power Equipment Institute
OSH	Occupational safety and health
OSHA	Occupational Safety and Health Administration
PEL	Permissible exposure limit
PLASA	Professional Lighting and Sound Association
RFI	Request for information
RIA	Robotic Industries Association
SAE	Society of Automotive Engineers
SDO	Standards developing organization (term usually applies to non-government organizations)
SHP	Safety and health professional
SIA	Scaffold Industry Association
DOT	Department of Transportation
U.S.C.	United States Code
UAMA	Unified Abrasives Manufacturers Association
UL	Underwriters' Laboratories
WMMA	Wood Machinery Manufacturers of America

ABSTRACT

THE EFFECTIVENESS OF PARTICIPATION IN PUBLIC AND PRIVATE STANDARD SETTING

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Due process requirements established by the Administrative Procedure Act of 1946 were designed to improve the ability of the regulated community to provide information to federal agencies and to hold agencies accountable for considering that information. Similar due process requirements, such as those set forth by the American National Standards Institute, direct the standards development activities of many non-government standards developers. Though written due process requirements are similar, there are important differences between the public and private systems which could affect whether relevant information is both delivered to policymakers and considered. Through a comparative case study of labor union participation in public and private occupational safety and health standards, this study examines the effects of these differences and the effectiveness of participation in each system based on the intent of the Administrative Procedure Act and democratic criteria. Recommendations for improving the effectiveness of participation in each system are made based on the research findings.

CHAPTER ONE: INTRODUCTION

In April 1981, an employee of Lyons Die Casting in Buckner, Missouri, lost part of her left ring finger while operating an automatic drill press. The accident occurred when the woman's hand was pushed upward by the platform where it was resting and impaled by a drill spindle affixed to the top of the machine. The drill press was a Deka 712 model manufactured by Amsted Industries and distributed by Bossert Company. The injured worker jointly sued the manufacturer and the distributor of the drill press for defective design (the lack of a guard on the machine) and for failure to warn. Despite the testimony of two expert witnesses who both claimed that the machine was unreasonably dangerous as designed due to lack of proper safety mechanisms, i.e., machine guards, the trial court ruled and the Missouri Court of Appeals upheld that compliance with industry standards—namely ANSI B11.8—Safety Requirements for the Construction, Care and Use of Drilling, Milling, and Boring Machines—in the manufacture and distribution of the press was sufficient to show that the responsibility for installing safeguards was not the responsibility of the manufacturer or distributor but of the employer or other end user of the drill. The injured worker was not entitled to punitive damages from the manufacturer.

In December 1990, a man was hired to work at Ravenswood Aluminum Corporation, an aluminum fabrication facility in Ravenswood, West Virginia, following a labor

dispute which resulted in the termination of thousands of hourly employees. In January 1991, approximately two weeks after he was hired, the man started working as a tilt pot operator in the factory. Tilt pot operation, a job which was previously performed by highly-trained veterans with more than 10 years of experience in the factory, involves the use of electronic controls to transfer “ingots”—long rolls of aluminum heated to approximately 900 degrees Fahrenheit—from large pots to a moving conveyor system. The conveyor system is called the “hotline” and is used to transport the ingots throughout the factory. In addition to tilting the pots, the man’s job required him to climb on to the hotline periodically to measure the temperature of the ingots. Less than one month after the man was hired, his leg was amputated following a work accident. The man had climbed onto the hotline to check temperatures and another inexperienced employee inadvertently changed the direction of the conveyor causing the man’s leg to be crushed by one of the moving ingots. The designer of the conveyor system and former owner of the company, Kaiser Aluminum and Chemical Corporation, was found partially liable for the man’s injury for not designing the conveyor system according to accepted private industry safety standards despite its contention that the standards were not mandatory.¹

¹ The terms “public” and “private” are used throughout this document to refer to standards created by government and non-government organizations, respectively. In the field of occupational safety and health, the terms “voluntary” or “consensus” are commonly used in reference to standard created by non-government standards developers and the term “mandatory” is used in reference to standards created by government agencies.

Of a sample of ten recent solicitations for construction of structures and facilities issued by ten different federal agencies,² nine required compliance with private standards in the contract specifications. All nine required compliance with private standards for the quality of materials used, and two required compliance with private occupational safety and health standards. Of the 100 most recent citations under the Occupational Safety and Health Act for general duty workplace hazards (hazards identified by an inspector which are not covered by a specific federal standard), 19 cited lack of compliance with a private safety or health standard as either the grounds for the citation, as an acceptable method for abating the hazard, or both.³ There are currently just under 9,000 private standards incorporated into federal regulations; approximately 650 of those are adopted into occupational safety or health standards developed by the Occupational Safety and Health Administration and the Mine Safety and Health Administration.

Though not widely known about or understood by the general public, private standards such as those referenced in the preceding examples affect the safety and quality of food products, medicines, children's toys, automobiles, oil and gas infrastructure, construction practices, and many other products and processes that affect average citizens on a regular basis. These standards can exercise influence in a number of ways: they are incorporated into work contracts and purchasing agreements, they are adopted in whole or in part into state and federal standards, they are used as a benchmark for compliance

² Ten of the most recent solicitations for "Y-Construction of structures and facilities" issued by ten different federal agencies were downloaded from www.fedbizopps.gov. Each solicitation was searched for requirements to comply with private standards by searching for and reviewing lists of references for the solicitations or by using the following terms: ANSI, ASTM, NFPA, ASME, ASHRAE, safety standards, and industry standards.

³ Citations were searched at <https://www.osha.gov/pls/imis/generalsearch.html> using a blank query and "All Offices" for the dates 03/31/2013 to 03/31/2014.

with federal and state regulations, and they are used as the standard of care in tort liability cases. In addition to influencing safety and health, they affect the economic opportunities available to small businesses. Manufacturers and providers of services who do not comply with private standards and, in some cases, obtain certification at their own expense to show that they do are more likely to be excluded from the marketplace and/or to be found culpable for injuries.

While the above examples are not meant to defame the often laudable work and effort of the organizations that develop these standards or the many thousands of experts who volunteer their time to create these much needed interpretations of policy and delineations of legal responsibility, they are meant to show the reader how influential private standards are in our society. Like government regulations, private standards are not devoid of political consequences. Their development assigns winners and losers, both economically and socially, and hence constitutes a form of authority that has been termed ‘private governance’ by Catherine Rudder and others. Rudder (2008) defines private governance as “the decision-making processes and the binding decisions of private groups that affect the quality of life and opportunities of a larger public.” (p. 901) Standards are the most common form of private governance, but there are many other forms which include certification and accreditation systems, licensing bodies, and credit rating schemes. Some of these systems are administered entirely by private organizations while some are the work of public-private partnerships. The growth in the number and scope of private governance arrangements is connected to Lester Salamon’s observation that there has been “a massive proliferation in the tools of public action,” many of which

involve sharing public authority with third-party actors. (2002, p. 2) To the extent that private standards are utilized by government authorities to evaluate compliance with regulations, to define portions of regulations, to determine liability, and to allocate government spending, they give, as Salamon describes it, “some actors, and therefore some perspectives, an advantage in determining how policies are carried out.” (p. 11)

Despite their importance, the creation of private standards is typically carried out by non-profit organizations with no direct political accountability to the people they affect. In cases where these standards are formally adopted by the state, requirements for due process set by the Administrative Procedure Act and other statutes and executive orders apply. But not all rules affecting U.S. citizens will be adopted by a government agency and subjected to formal procedural scrutiny and, as shown in the examples, standards and rules do not have to be formally adopted to exert influence. Often, when a private standard is developed, citizens, even those significantly affected by the standards, may have no legal right to participate in its design and no formal line of redress in the event of inefficient, unsafe, or otherwise unsatisfactory outcomes.

To complicate matters further, private standards can be highly technical and very narrow in scope, rendering their content even less conducive to public review than government regulations. But the market often needs standards that are more specific than government regulations. Timothy Schoechle (2000) explains that “conventional public policymaking institutions” lack the technical expertise to deal with the constant stream of policy issues that are “caused by rapid technological advances,” and, although the incentive to create standards stems from “the specific needs of private enterprise,” it

cannot be denied that these standards have broader social and economic effects. (p. 255)

Debating on what level of fall risk is acceptable for a laborer working from a two-point suspended scaffold is different than debating on how to design the scaffold so that it conveys the desired level of risk. Technical expertise is critical for determining and defining what the risks to safety are and what are the technically feasible solutions, but even the most technical decisions involve a normative component (Majone, 1989). Indeed, decisions about the design of scaffolds and their components are consequential; they will balance safety according to constraints such as production costs, how to integrate older designs and keep them in operation, as well as the needs of users. Design discussions require input from trained engineers. Meanwhile, most daily users of scaffolds would find it difficult to engage in a discussion about design. This makes providing participation opportunities that will satisfy normative democratic criteria while suiting the need to incorporate technical expertise a challenge.

Not only do private standards affect people in important ways and present challenges for participation, they are copious in number. Neil Gunningham and Joseph Rees characterize government regulation as the “[tip of] the proverbial iceberg” (1997: 397) when it comes to the immense body of “institutional settings” found in any complex society. As Rudder notes, there is an “array of governance arrangements beyond those that constitute formal government,” (p. 900) which are important to our lives. Looking at standards alone, in 1996, there were an estimated 49,000 private standards used in the United States compared to 45,000 government standards, which included 9,500 adopted from the private sector (Toth, 1996). Thirty years prior in 1967, there were 14,000

private standards compared to 39,500 government standards (Jamal & Sunder, 1997). The total number of standards grew while the share created by the U.S. government shrank considerably. The numbers have not been updated in nearly two decades, but U.S. government standards as a share of the total is likely to be even less today given the passage of the National Technology Transfer and Advancement Act of 1995 which encouraged adoption of private standards in lieu of government standards development.

The organizations that create private standards are typically private or non-profit industry-level organizations that are funded primarily through membership dues and may provide an array of services to their members that include lobbying, information gathering, standard-setting, and licensing. In fact, the function of these organizations to create rules or standards for their industry is usually overshadowed by their commonly recognized roles in lobbying and representation of industries or professions. At last estimate, there were more than 600 non-government organizations developing standards compared to only 80 government agencies (Toth, 1996). In the private sector, the processes used to create standards vary. Roughly 80 percent of private standards are considered *formal* in the sense that the standards are developed intentionally and according to a defined procedure. Others are considered *informal* in that they are developed by ad hoc groups or consortia with intention but without a defined process or they are de facto standards that take hold due to market influence.

Some formal standards, approximately 10,000, are created as American National Standards. That is, they are developed according to a set of procedures prescribed and enforced by the American National Standards Institute (ANSI). American National

Standards (ANS) are typically developed by committees of experts and stakeholders. Committee work is facilitated by a standards developing organization, called a sponsor or secretariat; the standard is then approved by ANSI. Standards developing organizations (SDOs) come in a variety of forms but are typically professional societies and trade associations. Examples of ANSI standards created through professional societies include the Boiler and Pressure Vessel Code developed through the American Society of Mechanical Engineers (ASME) and the Minimum Standard for Commercial Diver Training developed through the Association of Commercial Diving Educators (ACDE). Examples of ANSI standards created by trade associations include some of those developed through the American Petroleum Institute (API) for interchangeable equipment and engineering practices in the petroleum industry. The Toy Industry Association (TIA), an association of toy manufacturers, sponsors the development of an ANSI standard for tricycle safety and the Kitchen Cabinet Manufacturers Association (KCMA) sponsors the Performance and Construction Standard for Kitchen Cabinets and Bath Vanities. Private standards are also created by testing and evaluation organizations such as Underwriters Laboratories (UL), non-profit groups such as Leonardo Academy and Green Seal that oversee the creation of standards related to their mission area, and groups such as ASTM International and the U.S. Pharmacopeial Convention, large organizations whose primary purpose is standards development.⁴ American National

⁴ Robert Toth (1996) points out that the term standards developing organization (SDO) is correctly used to describe these types of organizations whose primary activity is standards creation but that the term has become more widely used to refer to any organization, such as a professional society or a trade association, that develops standards.

Standards are created by all of these types of organizations, but not all standards created by these organizations become American National Standards.

Private standard-setting activities organized by ANSI and others have been recognized in various ways by federal and state governments for over a century, but recent policy changes at the national level have encouraged even greater reliance on these standards. The National Technology Transfer and Advancement Act of 1995 mandates the adoption of voluntary consensus standards by government agencies over the development of new agency standards if there is no justifiable reason to create a “government unique” standard. Since the passage of the NTTAA, approximately 3,500 private standards have been adopted (i.e., incorporated by reference) into federal regulations, more than 40 percent of the total private standards adopted since 1930.⁵ Later, the Standards Development Organization Advancement Act of 2004 (P.L. 108-237) eased antitrust restrictions on collaboration related to standards development with the rationale that they made it difficult for firms to collaborate on standards “that are essential to the efficient functioning of our national economy.”⁶

Despite how essential private standards are to a well-functioning economy, the exercise of authority by private groups presents challenges for participation and accountability, two basic principles of a democratic society. Even when there are opportunities for participation, the highly technical nature of many standards might make it impractical if not impossible for some groups, e.g., the general public, to be adequately represented in their development. While most would agree that citizens should be

⁵ See NIST Agency Reports at <http://ts.nist.gov/Standards/Conformity/pubs.cfm>

⁶ See press release at http://www.usdoj.gov/atr/public/press_releases/2004/204345.htm

represented in decisions that affect their lives, it is well understood that participation is not without its costs. Robert Dahl (1998), Nelson Rosenbaum (1978), and others agree that the time and resources necessary to ensure that all citizens have input into policy decisions can make systems of participation unsustainable or negate the benefits of that participation entirely. Still there are strong arguments for participation by non-experts in highly technical decisions. Daniel Fiorino (1990) argues that non-experts are likely to contribute useful perspectives and that it is wrong to assume that technical experts will know and understand the interests of citizens better than citizens themselves. Robert Dahl recognized that using the advice of experts is different from giving them “power to decide on the laws and policies [we] will be compelled to obey” (1998, p. 71) and asserted that good governance “requires much more than strictly scientific knowledge” (p. 72). For a policy system to be both viable and favorable to democratic values, it must find a balance between gathering input from groups with varying degrees of technical expertise while protecting the advantages of using experts and its own financial sustainability.

During the Progressive Era, the rapid increase in the scope and importance of policy created by federal agencies triggered similar concerns about participation and accountability. The solution was the Administrative Procedure Act (APA) passed in 1946 which established “due process” requirements for policies made by federal agencies. For informal rulemaking, the form of policymaking most commonly used by federal agencies to create standards, the APA requires agencies to issue notice and provide an opportunity to comment, at a minimum. But authorizing statutes of many

agencies require them to offer even more opportunities for participation than just notice and comment. The standard-setting process under the American National Standards Institute (ANSI) follows a set of due process requirements that includes notice, comment, and appeals, similar to the basic requirements of the APA. Despite the existence of due process requirements in these policymaking systems, there has been very little investigation of the effectiveness of participation in either system.

The goal of this research is to evaluate the effectiveness of due process requirements and the participation systems they have helped to shape in public and private standard-setting. There are at least two sets of criteria that can be used to compare the effectiveness of participation. First, effectiveness can be evaluated according to the purpose of administrative due process requirements laid out in the Administrative Procedure Act and subsequent court rulings on the provisions of the Act. In this way, effectiveness would be measured as the ability of a participation system to accomplish two things: 1) to ensure that policymakers have relevant information pertaining to a policy they are developing and 2) to ensure that policy makers are accountable for considering information provided to them. Second, effectiveness of participation can be evaluated against normative democratic criteria which basically include how widespread participation is in a system, how well informed the participants are, and whether the participants can influence policymakers.

Since the universe of standards, both public and private, is vast, the research is narrowed to look specifically at one type of standard, occupational safety and health standards, and focuses primarily on the participation of a particular group, labor unions.

In addition to evaluating the effectiveness of participation methods in both systems, the study collected evidence to evaluate previous scholarship on the reasons for low participation in private standards by labor unions. In a review of private standard-setting written more than thirty years ago, Robert Hamilton (1978) found that labor unions might be unwilling or unable to participate in the creation of voluntary safety and health standards primarily due to a lack of technical expertise and a desire to avoid giving legitimacy to private standards by participating in the committees (pp. 1382-3). Hamilton also found “no representation of non-unionized labor” on private standards committees.

The next chapter describes the link between participation, administrative due process requirements, and democracy. The chapter discusses the origin and purpose of administrative due process requirements and lays out the criteria for measuring the effectiveness of participation. The chapter specifically describes due process requirements of the Administrative Procedure Act (APA) that apply to standards created by the government system and due process requirements of the American National Standards Institute (ANSI), which are most applicable to private occupational safety and health standards. One aspect of due process, notice and comment requirements, are nearly identical between the two systems, at least in writing. Some of the notable differences as well as literature on factors affecting stakeholders’ willingness and ability to participate in a standard-setting effort are also discussed in Chapter 2.

The main research question of this study is: *Is participation in public and private standard-setting equally effective? Why or why not?* There are a few key differences in public and private standard-setting systems, such as the lack of a preamble and different

accountability systems (described in more detail in Chapter 3), which might influence the effectiveness of participation in each system. A comparative case study based primarily on qualitative interviews with labor unions is used to examine the effects of these differences and other factors on the effectiveness of participation in two systems. In contrast to some previous work (see Ross Cheit, 1990), this research does not compare the quality of specific standards created by government and non-government authorities. Instead, this research examines the effectiveness participation in public and private standard-setting by comparing the perspectives of stakeholders who participate in standards development in one or both systems.

This research contributes to our understanding of private governance in at least three ways. First, the study looks beyond written procedural requirements and examines whether the participation systems which have grown out of those requirements are effective. It is one of only a handful of studies to examine due process or participation in the process of private standards development and the only one that specifically attempts to evaluate effectiveness. Second, it is the first study to define the universe of standards developing authorities in a particular policy area, occupational safety and health. Third, this study examines due process from the perspective of labor unions, the group of stakeholders most likely to represent worker interests in the creation of occupational safety and health standards. Previous research has indicated that labor unions are the only potential representative of worker interests but that they may be unwilling or unable to participate for a number of reasons. To the extent that labor unions are a source of important and unique information about work practices and occupational safety and

health, it is important to know whether their participation in two major policy development systems is effective and what might be done to improve it. Finally, in addition to these contributions to the field of private governance, this study also contributes to our understanding of the effectiveness of participation in federal standard-setting by examining how the preamble is used by commenters and other ways commenters typically acquire context about a proposed rule to form comments.

CHAPTER TWO: DUE PROCESS, PARTICIPATION, AND DEMOCRACY

“Anything that is very dull is likely to also be very important.”

~Ralph Nader, Testimony during the Senate
hearings on *The Voluntary Standards and
Accreditation Act of 1977*

This chapter provides background on due process requirements that apply to standard-setting, both public and private, and reviews literature on participation in both systems. The Administrative Procedure Act (APA) established due process requirements that govern participation in informal rulemaking by federal agencies. The four basic elements of due process under the APA are notice, comment, a statement of basis and purpose, and an appeals mechanism. The *ANSI Essential Requirements* contain due process requirements similar to those of the APA that apply to private standard-setting under the American National Standards Institute (ANSI). Roughly 20 percent of private standards created in the United States are developed under the ANSI system. In the 1970s, three draft policies, two legislative and one regulatory, aimed to establish due process requirements for non-government SDOs, but ANSI and other groups argued that additional requirements and federal oversight were unnecessary and none of the policies were ever finalized. Due process requirements can create the foundation for effective participation in a policy, but other factors may ultimately determine whether a policy

system is effective at gathering information from affected stakeholders about the policies it creates and ensuring that information is considered by policymakers.

2.1 Participation and Due Process

Robert Dahl (1998) listed five criteria that must be satisfied to sustain a democratic system—effective participation, voting equality, enlightened understanding, control of the agenda, and inclusion of all adults. Participation is important in a democracy because it helps to prevent citizens of greater wealth and social rank from creating rules that will benefit them at the expense of those who are less privileged. But participation is not without its costs. The process of eliciting public opinion and incorporating it into policy can be so ineffective and inefficient that outcomes become less desirable than a system with no participation at all (DeSario and Langton, 1987; Rosenbaum, 1978). Even Dahl (1998) agreed that too much participation could have negative outcomes as a system grew larger and more complex because for everyone to have an equal say would require too much time and resources.

Given that soliciting outside input on policies is costly, methods for doing so should be as efficient and as effective as possible. Unfortunately, the types of participation which are most effective at gathering input from experts, e.g., open discussion in advisory committees, are often most ineffective at gathering input from the public or other groups because of the expertise and/or resources needed to participate. Likewise, methods which are better at gathering information from laypersons or groups with fewer resources, e.g., surveys or polls, are not often useful for collecting the types of information necessary to create good policy. In many cases, multiple methods of

collecting input may be necessary to protect the advantages of direct deliberation with experts while also including the views of other affected groups. The concept of matching participation methods to the purpose of that participation has been introduced in the literature, but Thomas Weblar (1999) outlined the obstacles of implementing such a system which include the need for a comprehensive taxonomy of participation methods and predicting how a wide range of contextual variables might affect the outcome. But even if policymakers knew what the most effective methods were, eliciting meaningful and routine participation from citizens in issues that do not directly or immediately affect them might be too much to expect. For examples, Cary Coglianese (2006) explained that e-rulemaking has been mostly unsuccessful at increasing public participation in agency decisions because there is still a high opportunity cost of participation for citizens who are not directly, materially affected by rules to gather sufficient background information about a rule and form a meaningful comment. In response to the opportunity cost problem that plagues direct citizen participation, some have called for funding of citizen participation in rulemaking efforts (Lenny, 1976; Jeffrey, 2002).

Though it is not fully understood which are the most effective and efficient methods for gathering outside input on policy decisions, many requirements exist, especially for government agencies. Such requirements, typically referred to as “due process” requirements, are designed to protect the rights of citizens from actions of the state. The fundamental principle underlying due process is that the state should follow fair procedures before depriving citizens of life, liberty, or property. Due process takes different forms and is guaranteed by different authorities but typically requires some form

of input from those affected by the decision. Often, when reference is made to due process, it is referring to constitutional due process. The United States Constitution guarantees due process in the case of actions taken by the government in the fifth and fourteenth amendments. The Fifth Amendment applies to actions taken by the federal government and states, “No person...shall be...deprived of life, liberty, or property, without due process of law.” The Fourteenth Amendment later used identical language to codify the right to due process in the case of state (i.e., the fifty states) actions. In the case of Constitutional due process, process is due whenever “the state” takes an action (e.g., makes a policy) that “deprives” a citizen of their life, liberty, or property (Davis & Pierce, 1994).⁷ But questions of whether a state action has occurred, whether an individual has been affected by that action, and how far a government entity should go to ensure adequate due process make this area a “murky body of law” and one where court decisions have been inconsistent (Suagee & Lowndes, 1999, p. 17).

⁷ For an in-depth explanation of these criteria, see Davis & Pierce (1994), or for an in-depth examination of state action, see, for example, Sheila Kennedy (2001).

The right to due process that is guaranteed by the Constitution is not necessarily the same right that would apply to federal rulemaking, though it could be.⁸ Depending on the circumstances of a particular case, a person might not be guaranteed a right to Constitutional due process but would be entitled to administrative due process under the Administrative Procedure Act or due process or fair procedure under a state constitution. In fact, part of the purpose of the Administrative Procedure Act was to establish due process standards for the quasi-legislative actions of federal agencies to ensure that the rights of people and firms were protected, presuming they were not well protected by the political process. There have been cases where a constitutional due process case was filed in response to federal rulemaking, but such cases are extremely uncommon. Typically, when there is a case of alleged due process violation related to a federal

⁸ In general, a *group* or class of entities affected by an action of the federal government does not collectively have a right to constitutional due process. For example, when Congress makes a law that affects all firms in a particular industry or all persons in a certain age group or social class, it is not required to provide each person individual due process. However, when a court makes a decision that affects an individual firm or person, it is required to offer the traditional elements of due process such as the opportunity to present evidence and to cross examine witnesses. This distinction is based on the Supreme Court case *Bi-Metallic Investment Co. v. Colorado* [(239 U.S. 441 (1915))], where the majority opinion stated, “Where a rule of conduct applies to more than a few people, it is impracticable that everyone should have a direct voice in its adoption.... [The rights of groups affected by general statutes] are protected in the only way that they can be in a complex society -- by their power, immediate or remote, over those who make the rule.” In other words, groups are protected by their power over the political process. Only in cases where the particular facts of a case are related to an individual person (e.g., whether a person or firm violated the law) does that individual have a right to a hearing and other aspects of constitutional due process. Decisions made by Congress are based on legislative facts, defined as “general facts which help the [policymaker] decide questions of law and policy and discretion” whereas a decision by a court is based on adjudicative facts, “facts about the parties and their activities, businesses, and properties... that ordinarily ought not to be determined without giving the parties a chance to know and to meet any evidence that may be unfavorable to them.” (Davis, 1958) Following this reasoning, constitutional due process does not typically apply to informal, notice-and-comment rulemaking by agencies because informal rulemaking is a quasi-legislative function where decisions are based on legislative facts rather than facts that pertain to an individual person or firm.

rulemaking, the authority of the Administrative Procedure Act (APA) or another statute which prescribes procedures for rulemaking is invoked.

The solution to the mounting need for complex policy decisions during the Progressive Era was the establishment of administrative agencies, relative experts insulated from the political process with the authority to solve important policy matters through regulation (Funk, 2009). Government agencies could pay closer attention to issues and possess greater expertise than courts and elected leaders. Although bureaucratic experts were originally assumed to be neutral in their beliefs about policy, the public soon began to realize that decisions made by federal agencies to implement the laws of Congress were rarely value-free. Hence, this growth in the number of important decisions being made by bureaucratic agencies with varying degrees of accountability to the public and to the entities they regulated was a threat to the democratic principles of equality and representation. Rosenbaum explained that: “A major factor in the enactment of the original Administrative Procedure Act of 1946...was the perception that the interests of most citizens were being disregarded by a group of decision-making institutions that increasingly affected important aspects of their lives.” (1978, p. 45) In response to the increase in power of the administrative state, several bills with the aim of standardizing and increasing the accountability of federal agencies and improving participation in their policies were introduced in the U.S. Congress during the 1920s. After two decades of debate, the Administrative Procedure Act (APA) was unanimously passed into law in 1946.

2.2 Due Process Requirements for Federal Agencies

The Administrative Procedure Act (APA) of 1946 established simple due process requirements for adjudication and informal rulemaking activities of federal agencies and, in doing so, laid the foundation for public participation in their decisions. Other requirements in statutes and executive orders followed. This section describes administrative due process requirements of the APA and other sources in detail, both those that apply to the adjudicative function of agencies, which are similar to those required for criminal trials, and those that apply to informal rulemaking.

2.2.1 Due Process under the Administrative Procedure Act

The APA laid out basic requirements for access to information, notice and comment in informal rulemaking, representation and procedure in adjudication and informal hearings, and judicial review of agency actions. Requirements under the APA depend on whether an agency decision is classified as “rule” or an “order”. A “rule” is the outcome of rulemaking (a quasi-legislative function of agencies) and an “order” is the outcome of adjudication (a quasi-judicial function of agencies). Most people are more familiar with the rulemaking function of federal agencies and the notice and comment process used to announce and gather information about proposed policies. This activity is technically called “informal rulemaking” in the APA and is distinguished, both in terms of purpose and procedure, from “formal rulemaking” and “adjudication”. Many agencies use adjudication for enforcement and other decisions, especially decisions that apply to an individual person or firm.

2.2.1.1 *Adjudication*

Adjudication resulting in an administrative order is used in cases which involve a single firm or person, usually enforcement cases. One example is an adjudicatory order of the Federal Trade Commission (FTC) used to declare its findings on whether a company violated the Federal Trade Commission Act. In such orders, the FTC may direct firms to stop making certain claims about a product, to stop certain business practices, or to dissolve partnerships with other firms. The FTC sometimes issues dozens of adjudicative orders each month (See <http://ftc.gov/os/actions.shtm>). Decisions made by the Environmental Protection Agency regarding violations of environmental statutes by individual firms are also issued as adjudicative orders (See <http://www.epa.gov/oalj/orders.htm>). Decisions made by the Social Security Administration (SSA) on medical disability benefits are also issued as adjudicative orders since each decision pertains to an individual case of disability with unique circumstances and evidence.

Sections 5, 7, and 8 of the APA (5 U.S.C. §554, 556-557) establish due process requirements for agency adjudicatory proceedings. “[F]ormal adjudication,” explains William Fox (2000), “uses a process that is very much like a civil bench trial in court.” As Fox points out, the requirements of the APA combined with an agency’s own procedures usually “far exceed the constitutional threshold [for due process]” (p. 117), which explains why federal agencies are rarely a defendant in constitutional due process cases. The primary differences between agency adjudications and civil court proceedings are that agencies “do not use formal rules of evidence” and do not use juries (Fox, 2000,

p. 17). For adjudication, Section 5 of the APA requires notice, a procedure where the defendant can present evidence (not necessarily a hearing though hearings are common), and a separation of functions. An example of separation of functions is that an agency officer that performs an investigative duty in a case cannot also be responsible for issuing the final decision. If there is a hearing, Section 7 requires that each party have the opportunity to present evidence orally and to cross-examine witnesses, and it requires a record of testimony and evidence presented to be kept. If the agency chooses to base its decision on information not contained in the record, the other party has a right to refute that evidence. All agency orders, unless otherwise specified by law, can be appealed through the courts; Section 10 of the APA gives any person who suffers legal wrong or adverse effect due to an agency action the right to seek judicial review of that action.

Court interpretations of due process requirements for agency adjudication have varied some over time, but Judge Henry Friendly noted that a hearing was almost always required. Judge Friendly summarized the elements of a fair hearing in order of importance (Table 2-1) and explained their limitations based on various court interpretations (1975, pp. 1279-1295). The elements summarized by Judge Friendly are similar to the rights of a defendant in a criminal trial, but they are not identical. First, the elements do not involve the use of juries. Second, the elements, in general, are sensitive to the resource limitations of government agencies.

Table 2-1. Elements of a fair hearing

Elements	Description/Basis
1. Unbiased tribunal	An adjudicator who did not participate in making the decision being reviewed
2. Notice of proposed action and grounds asserted for it	A notice of the proposed action that provides enough time and enough information for the individual to gather evidence to present in his defense
3. Opportunity to present reasons why the proposed action should not be taken	An opportunity to present evidence, not necessarily oral testimony if arguments can be presented effectively in writing
4. Right to call witnesses	Right to call a reasonable number of witnesses to present testimony within the scope of the decision and right to cross-examine witnesses
5. Right to know opposing evidence	Ensures the ability to fact check or challenge opposing evidence
6. Right to have decision based only on evidence presented	Ensures the ability to fact check or challenge opposing evidence
7. Right to counsel	Not necessarily an attorney but a guide to assist in sorting and presenting facts pertinent to the case
8. Making of record	A written record is most important in the event of an appeal, to make sure that the facts presented in the original hearing are adequately represented and based on more than memory
9. Statement of reasons	Necessary for later judicial review
10. Public attendance	Hearings need not be fully open to the public, as they are in criminal trials, but should be open to those with a reasonable interest in a case, e.g., the family of a prisoner
11. Judicial review	Mostly limited to fair procedure, not lack of evidence

Source: Friendly, 1975

2.2.1.2 *Rulemaking*

Section 4 of the APA (5 U.S.C. § 553) established due process requirements for rulemaking, which include notice, an opportunity for comment, and a general statement of basis and purpose to be issued with the final rule. Section 7 on hearings would also apply in the event that formal rulemaking is required by statute. In addition, Section 3 (5 U.S.C. § 552) provides for access to information about agencies' rules and procedures, and Section 10 (5 U.S.C. § 706) provides for judicial review of rules (i.e., appeal) that have violated the requirements of Section 4. In general, there are no requirements for

oral hearings as there are for adjudication, and individual people or firms who find themselves adversely affected by rulemaking have little recourse. Some have considered the absence of requirements similar to adjudication to mean that due process does not apply to rulemaking (Funk, 2009; Sinaiko, 1975). While it is technically correct that *individuals* have no constitutional rights to due process in the case of informal rulemaking, individual people or firms do have a right to procedures guaranteed by Congress through the Administrative Procedure Act (APA). While these procedures are not as extensive as those required for agency adjudication, their fulfillment is not taken lightly by the courts, and failure to follow proper procedure is, by itself, grounds for a rule to be suspended or overturned if challenged in court. Due process requirements for rulemaking under the APA are discussed in greater detail in Section 2.3.

2.2.2 Other sources of administrative due process

2.2.2.1 *Requirements for formal rulemaking*

For informal rulemaking, most commonly used to create standards by the federal government, the APA requires agencies to issue notice and provide an opportunity to comment, at a minimum. But authorizing statutes of many agencies require them to offer more opportunities to offer input than just notice and comment. In cases where agencies are required to conduct formal rulemaking, sometimes called rulemaking “on the record,” agencies are required to follow the provisions of Section 7. An example of a statutory requirement for formal rulemaking is found in 21 U.S.C. § 371 which requires the Food and Drug Administration (FDA) to base certain types of regulations (e.g., those

concerning manufacturing requirements for human health, impurity of drugs, etc.) on information presented in formal hearings whenever a hearing is requested in response to a proposed rule. Another example is found in 16 U.S.C. § 1539(e)(4) which requires the Department of Interior (DOI) to base any regulations that restrict hunting of endangered species by Alaskan natives based on information collected through formal hearings. Occasionally, agencies may opt to conduct formal rulemaking or hybrid rulemaking (a combination of formal and informal procedures) to take advantage of certain benefits of formal rulemaking such as greater transparency, being excused from the infamous benefit-cost analysis requirements of Executive Order 12866, and greater efficiency in collecting input from affected parties, to name a few. Some believe that formal rulemaking has the important benefit of simplifying and limiting the evidence to be considered by an agency when making a rule. Others believe that requiring rulemaking to be made on the record is a way for Congress to simultaneously hobble agencies and shift the blame for inaction, making it nearly impossible for an agency to make rules while leaving room for elected leaders to claim that “the agency has the power to issue rules” (Davis & Pierce, 1994, p. 417).

2.2.2.2 Additional Hearings, Procedures, and Appeals

In addition to requirements put in place by the APA and statutory requirements for formal rulemaking, additional procedural requirements for agency rulemaking are sprinkled throughout various other authorizing statutes of federal agencies. For example, 7 U.S.C. § 608b authorizes the Secretary of Agriculture to establish marketing

agreements with agricultural producers “after due notice and opportunity for hearing.” Marketing agreements, agreements between the U.S. Department of Agriculture (USDA) and agricultural producers to only market food under a label that meets a certain set of quality criteria (e.g., size requirements for California walnuts), are most similar to legislative rules, but more than just notice and comment is required before they are codified. The Secretary of Labor is also required to provide opportunity for a hearing, if requested, under 29 U.S.C. § 655(b)(3) following notice of a proposed rule that contains a voluntary consensus standard. The Federal Trade Commission (FTC), when defining “unfair or deceptive acts” through rulemaking, must provide the opportunity for an informal hearing (15 U.S.C. § 57a(b)(1)(C)) including the opportunity for cross-examination of witnesses if there are disputed facts (15 U.S.C. § 57a(c)(2)(B)).

In addition to requirements for hearings prior to rulemaking, statutes also sometimes contain additional requirements for appeals opportunities that go beyond the APA requirements. For example, the Federal Traffic and Motor Vehicle Safety Act of 1966, the Act which authorized the Department of Transportation to create Federal Motor Vehicle Safety Standards (FMVSS) states that any “person adversely affected by an order prescribing a motor vehicle safety standard under this chapter may apply for review of the order... not later than 59 days after the order is issued.” (49 U.S.C. § 30161(a)).

2.3 Due Process Requirements for Informal Rulemaking

As discussed earlier, informal rulemaking, also called notice-and-comment rulemaking, is a quasi-legislative function of federal agencies. From a due process perspective, this means that individuals affected by broad policy statements (e.g., rules)

do not have a right to a hearing the same as they would if an agency made an enforcement decision or other type of decision that affected an individual entity. But this does not mean that individuals are not entitled to some form of due process in rulemaking, just not what they would be entitled to in an agency adjudication or as a defendant in a court of law. Agency procedures must, at a minimum, meet four basic due process requirements. The first three are adequate notice, opportunity for comment, and a general statement of basis and purpose. Fulfillment of these three is enforced through the fourth requirement—judicial review.

The APA defined a “rule” as an “agency statement of general or particular applicability and future effect designed to implement, interpret, or prescribe law or policy.” Over the years, different types of agency decisions have tested the limits of this definition, and the courts have been tasked with determining whether certain decisions which are not technically regulations (e.g., policy guidance) should fall under the purview of the APA’s definition of a rule. To make this determination, courts generally ask how the agency has characterized the action and whether the action has “binding effects on private parties or the agency” (*Molycorp, Inc. v. EPA*, 197 F.3d 543, 545 (D.C. Cir. 1999); *Ctr. for Auto Safety v. NHTSA*, 452 F.3d, 806, 807) or, said another way, whether the action is one by which “rights or obligations have been determined or from which legal consequences will flow.” (*Bennett v. Spear*, 520 U.S. 154, 178). This requirement, says Gwendolyn McKee (2008), would make it very difficult to be granted judicial review of a guidance document. However, the Office of Management and Budget (OMB) sometimes requires notice and comment and economic analyses for

significant guidance documents. Guidance documents are not rules, but they can be binding in the sense that challenging an Agency's interpretation of a policy could require too many resources to be feasible for the average affected person or firm and/or would outweigh the cost of simply complying with the guidance.

2.3.1.1 *Notice and Comment*

The basic purpose of the notice and comment period is to provide members of the public an opportunity to present their views and other relevant data on an agency's proposed action and its rationale for that action. *The Report of Attorney General's Commission on Administrative Procedure* (1941) explained that a legislature is "a cross section of the community, and its members in theory bring with them... the knowledge and opinion out of which... laws are to be framed." Administrative agencies are not the same. They are supposed to carry out the will of elected officials, but their deliberations are not necessarily public and, although they have greater expertise than the legislature, the knowledge of agencies "is rarely complete, and [they] must learn ... the viewpoints of those whom its regulations will affect." (pp. 102-103)

The APA requires a notice of a proposed rule to be published in the Federal Register and to include at least the following three elements:

- (1) *a statement of the time, place, and nature of public rulemaking proceedings;*...
- (2) *reference to the legal authority under which the rule is proposed;*...
- (3) *either the terms or substance of the proposed rule or a description of the subjects and issues involved.* [5 U.S.C. § 553(b)(1-3)]

For notice of a rule to be considered adequate, the notice should occur before the rule is promulgated "while the decision-maker is still receptive to information and argument."

(Sharon Steel Corp. v. EPA, 597 F.2d 377, 381 (3rd Cir. 1979)). To determine whether an agency issued adequate notice of a rule, courts have asked whether a notice was “sufficient to alert all [stakeholders] of the opportunity to submit comments” (United Steelworkers of Am., AFL-CIO-CLC v. Pendergrass, 855 F.2d 108, 113 (3d Cir. 1988)) and whether the final rule was “consistent with the record evidence and would have constituted a logical outgrowth of the proposed rule.” (Alabama Power Co. v. OSHA, 89 F.3d 740, 745 (11th Cir. 1996)). In other words, notice should be such that stakeholders know that a proposed rule will affect them and can reasonably expect the final rule based on the proposed rule. Regarding whether there has been a sufficient comment period, the courts have asked whether stakeholders have had an opportunity to present their views to the policymaker in a convincing fashion, specifically whether the agency has “provided sufficient factual detail and rationale for the rule to permit interested parties to comment meaningfully” (Florida Power & Light Co. v. United States, 846 F.2d 765, 771 (D.C.Cir.1988)) and offer “informed criticism” (United Steelworkers of Am., AFL-CIO-CLC v. Marshall, 647 F.2d 1189, 1225 (D.C. Cir. 1980)).

Most challenges concerning adequacy of notice are not due to inadequate *time* to comment but rather because: 1) the final rule was significantly different from the proposed rule such that the affected parties could not have predicted what was coming or 2) the agency used data or information to support the final rule that was not contained in the proposed rule. This is not to say that an agency cannot issue a final rule that is different from its proposed rule, but the final rule should be a “logical outgrowth” from or “sufficiently foreshadowed” by the proposed rule (Davis & Pierce, 1994). When applied,

the logical outgrowth test can be easily satisfied as long as the “‘germ’ of the outcome can be found in the proposal” (NRDC v. Thomas, 838 F.2d 1224, 1242) or the agency suggests that it might take the action that it ultimately did (BASF Wyandotte Corp. v. Costle, 598 F.2d 637, 642). Another way to determine if the substance of a final rule has been sufficiently noticed is to see whether submitted comments “have failed to deal with the substance of the final rule.” (Stein et al., 1996, Ch. 15, p. 42) In Mobil Oil Corp. v. FPC (483 F.2d 1238 (D.C. Cir. 1973)), the court determined that none of the comments submitted on a rule proposed by the Federal Power Commission (FPC) dealt with the subject of setting rates for interstate transportation of liquids through pipelines. From this, it reasoned that the Commission had not made clear its intent to set rates in the proposed rule and, therefore, had not complied with “the minimal requirements of Section 553.”

The APA does not require an agency to publish all information and data on which a proposed rule is based. The intent of the notice requirement in the APA was “to fairly apprise interested parties of the issues involved, so that they may present responsive data or argument related thereto.” [Sen. Do. No. 248, 79th Cong. 2d Sess. 200 (1946)] Notice is deemed adequate if it is timely and contains enough information about an agency’s reasons for a proposed rule that it provides an opportunity for the public to “to inform the agency” so that rules are “accurate and fair.” (Funk & Seamon, 2009, p. 87) The opinion of the court in the Chocolate Manufacturers Association vs USDA (755 F.2d 1098) similarly explains the purpose of notice and comment:

The purpose of the notice-and-comment procedure [is] "to allow the agency to benefit from the experience and input of the parties who file comments." ... The notice-and-comment procedure...educates the agency, thereby helping to ensure informed agency decision making.

After publishing notice, the agency must accept and consider written comments on its proposal. It may choose to hear oral arguments, but it is not required to. Agencies are required, perhaps inexplicitly, to collect enough information, by whatever means available, to make a good decision. However, there are no specific requirements for how those comments must be handled, whether the agency must respond, or when and under what circumstances it is obligated to change its policy in light of the comments received (P.L. 79-404, 1946; West, 1984). And although an agency is not explicitly required to consider every comment submitted during the notice and comment period, Davis and Pierce (1994) explain that if a comment questions an agency's logic or presented facts and the agency does not respond to that criticism by changing the final rule, it should be prepared to have its rule overturned if it cannot justify the decision.

Though the intended purpose of the notice and comment requirement may be to collect information pertinent to a particular rulemaking, E. Donald Elliot (1992) reminds us that the formal notice-and-comment period that occurs at the stage of notice of proposed rulemaking is not what a policymaker who is "genuinely interested in obtaining input from interested parties would rely on." There are other tools for collecting information, such as informal meetings with stakeholders or advisory committees. The formal notice and comment period is used to "compile a record for judicial review." (p. 1492) Still, it is the anticipation of notice and comment in rulemaking that drives the

information collection that precedes it, even if it is not the place where most information is submitted.

2.3.1.2 *General Statement of Basis and Purpose and Judicial Review*

Title 5 U.S.C. §553 directs agencies to “[consider] the relevant matter presented” and to then “incorporate in the rules adopted a concise general statement of their basis and purpose.” The Senate report on the APA (1945) clarified that the general statement should “relate to the data so presented” as well as explain the reasons for and the objectives of the rule “with reasonable fullness.” (p. 201) Although it is not specified in the APA exactly how much detail should be included in the general statement, it is understood that the statement must contain enough detail for a reviewing court to determine why a particular policy was adopted. (Stein et al., 1996, Ch. 15, p. 165). Hence, the length and detail of the general statement will depend on the complexity of the rule. For small, routine rules, the general statement could be just a few paragraphs. For a rule that depended greatly on outside input, a general statement, usually contained in the preamble for a rule, could be hundreds of pages long. While it is not necessary to discuss every counterargument to the agency’s reasoning or rationalize the decision in light of every comment submitted, the statement should discuss the major pieces of information submitted, whether through comments, hearings, or other ways, and explain how and why those points affected its decision.

Section 10 of the APA—Judicial Review—was apparently little more than a restatement of what already prevailed in case law, but it did expand judicial review in

some areas of administrative rulemaking which had been previously been off limits to the courts (Kaufman, 1946). The opportunity for appeal is what gives power to the participation requirements. Data and information submitted through the notice and comment period become part of the evidence for why a rule is necessary, and the general statement explains how that information was used in the decision. The general statement creates a link between the information submitted and the grounds for judicial review. The requirements of Section 10 of the APA for judicial review (5 U.S.C. § 706) state that a reviewing court can “set aside [any] agency action, findings, and conclusions found to be” arbitrary and capricious, contrary to the constitution, beyond the agency’s statutory authority, taken without following proper procedure, or unwarranted by the available evidence. Pierce and Davis (2002) explain that modern rulemaking procedure “...is the complicated product of the meanings courts have given to “notice,” “comments,” “statement of basis and purpose,” and “arbitrary” and “capricious,” with the meaning of each term related to the presence of the other terms in the statute and the meaning give those other terms.” (2002, p. 413)

A violation of the procedural requirements, such as not issuing adequate notice, is sufficient grounds for an affected group to seek judicial review of a rule. Oftentimes, procedural violations are minor and would not have affected a final rule in any substantive way. Nonetheless, any technical violation of an administrative due process requirement results in an automatic ruling against the agency if an interest group decides to take it to court. For example, Judge Cacheris, in *Chocolate Manufacturers Assoc. of the United States, Appellant, v. John R. Block, Sec. U.S. Dept. of Agriculture* (755 F.2d

1098) ordered the USDA to reopen its comment period because elements of the final rule were not adequately indicated in the proposed rule. The judge ruled that this did not allow interested parties a fair opportunity to comment stating, “Although ultimately their comments may well have been futile, [interested persons] at least should have had the opportunity to make them.”

Procedural violations, however, are not the only grounds for judicial review under the APA. Comments and information submitted throughout the rulemaking process, the agency’s own research, and the results of any analyses conducted (e.g., benefit-cost analysis, small business impact analysis) can show whether an agency was aware of potential adverse outcomes of a rule, whether it was aware of more efficient solutions to a problem, and whether it carefully analyzed potential alternatives to the final rule. If a rule is ever challenged in federal court, the paper trail created by the procedural requirements can be used by a judge to determine whether an agency promulgated the best possible regulation given the circumstances and whether it was responsive to outside input. This sort of intense criticism by the courts on an agency’s reasoning, sometimes called a “hard look test,” has been more common since the 1970s. Judge Bazelon’s opinion in the *Environmental Defense Fund, Inc. v. Ruckelshaus* (439 F.2d 584, 597 (D.C. Cir. 1971)) foreshadowed the changing climate of judicial review of agency decisions:

For many years, courts have treated administrative policy decisions with great deference, confining judicial attention primarily to matters of procedure. ... Gradually, however, [judicial] power has come into more frequent use, and with it, the requirement that administrators articulate the factors on which they base their decisions... Discretionary decisions should more often be supported with findings of fact and reasoned opinions.

In keeping with more stringent requirements for rationalized decision-making, federal courts have emphasized the need for more responsiveness by the bureaucracy and the need to keep a thorough record of the basis for decisions to ensure that agency decisions adequately reflect consideration of all public comments (Seidenfeld, 1997; West, 1984, 1995). These points of emphasis in court rulings have caused agencies to focus more effort on making their decisions more resistant to examination by federal courts. Sidney Shapiro (2007) explained that the notice and comment process has evolved in response to court decisions “in order to ensure that courts will not find [agency] actions arbitrary or capricious.”⁹ (p. 689)

Beyond this trend toward demanding greater accountability of agencies in considering outside information, the courts have also expanded *who* agencies must be accountable to. Changes in the 1970s which expanded judicial standing to affected groups other than regulated entities were expected to ensure that agencies were accountable for considering the views of *all* affected groups when promulgating regulations. But William Funk (2009) explains that recent court interpretations do not reflect the original intent of the APA. While the APA requires that “interested persons” should be provided with the opportunity to participate in rulemaking, “this term meant a direct and palpable interest,” said Funk (2009). The APA did not actually require notice of an agency action if the “persons subject [to the proposed rule]” were known and could be personally served with

⁹ The ruling in *Motor Vehicle Mfrs. Ass’n v. State Farm Mutual Auto. Ins. Co.* explains that a rule is considered arbitrary and capricious “if the agency has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise.” (463 U.S. 29, 30, 43 (1983)).

notice. If all direct stakeholders could be noticed, there was “no need for the public at large to be involved.” (p. 173) Funk asserted that this shows that the requirements of the APA really only pertained to those directly regulated by rules. He goes on to explain that court interpretations increased “the transparency of, and the opportunity for, public participation in rulemaking by interpreting the APA in ways not originally contemplated, even while grounding their decisions in the APA.” (p. 174) Prior to this shift, the views of non-regulated groups were likely to be given less weight or not be considered at all in agency decisions because they could not request judicial review. While the shift in the perception of standing might allow more groups to take legal action against an agency, it has been argued that agency decision making has not adequately conveyed the public interest because of judicial review. Because comments on proposed rules serve as “placeholder[s] for litigation,” agencies respond to the most powerful commenters, those most likely to challenge a rule in court. (Wagner, 2012, p. 1722) Cass Sunstein, on the other hand, still argued that there are important benefits to judicial review that include increased legitimacy of agency regulations and more efficient allocation of agency resources (1989).

2.3.2 The purpose of due process requirements for informal rulemaking

The APA was designed to ensure that agency rules were well-reasoned, were made using the best available information, and that groups had a systematic way to participate in the process and have their voices heard. The focus on participation in rulemaking stems from the idea that agencies benefit from the consideration of perspectives and expertise from outside the agency. The provision for judicial review ensures that the

information and perspectives submitted from affected stakeholders should have an effect on agencies' policies. Although the stated reasons for the APA convey a tone of protecting the public interest, it is likely that the APA would never have been passed if not for the untiring efforts of the American Bar Association (ABA). Lawyers sought to define and codify their role in terms of the rapidly expanding administrative framework and its procedures. As Herbert Kaufman (1946) states, "...the lawyers [were] in the forefront of the procedural attack on the administrative process." (Kaufman, 1946, pp. 482-3). In modern rulemaking, the role of attorneys in the rulemaking process is well-established. Most interest groups have attorneys on staff who are versed in the process of informal rulemaking. As such, federal agencies have legal departments and attorneys are closely involved in drafting rule justifications and responding to comments and petitions from stakeholders.

Aside from pressure from the legal community to create uniform rules and procedures, some have also theorized that the primary purpose of administrative due process requirements is to improve accountability of bureaucratic agencies, not to the regulated communities or to the public, but to their primary principals: Congress and the President. As explained previously, the majority of policy is developed and implemented by bureaucratic agencies due to their ability to house greater expertise than elected leaders. But elected officials may also choose to delegate authority to agencies to avoid immediately making decisions without knowing all the details of a policy matter and/or without knowing the preferences of their constituents. Although there are good reasons for delegating policymaking authority to agencies, Congress and the President will

always want to maintain some level of control over agency decisions since they may have political consequences. Without monitoring, agency decisions may "reflect personal preferences, [may be] derived from... private political values, personal career objectives, [or]... an aversion to effort" (McCubbins, Noll, & Weingast, 1987, p. 247) rather than reflecting the preferences of their political principals. Due process requirements for participation, disclosure, and rationalization of decision-making can be, at least in part, "a means of inducing bureaucratic compliance that does not require the time, effort, and resources of political actors." (McCubbins et al., 1987, p. 254) In other words, an important political function of the requirements; in addition to compelling agencies to be more responsive and better informed; is that they make bureaucratic policymakers more accountable to elected leaders and ultimately to the political process.

2.4 Participation in Rulemaking

Despite the fact that notice and comment rulemaking, federal or state, is the most common form of policymaking in this country, there are very few empirical studies on rates of participation in rulemaking, the effects of participation, and which factors determine the decision of stakeholders to participate in regulatory policymaking, let alone what determines the specific decision to submit comments on a proposed rule or standard. Empirical evidence supports the idea that at least two factors, the perceived effect of participation and resources, affect the decision to participate in rulemaking. This section discusses previous research on participation in rulemaking and on the determinants of participation in rulemaking.

2.4.1 Who comments and the effects of comments

So who actually uses the notice and comment period to submit information and does the submitted information result in changes to agency rules? Marissa Golden (1998) found that, in a study of eleven rules, the majority of comments (more than 50 percent in 9 of 11 rules) on proposed rulemakings were submitted by business (e.g., corporations, trade associations, and other coalitions). Labor unions did not submit comments on any of the proposed rules, and citizen groups were often inactive but sometimes submitted between 5 and 15 percent of total comments. Individual citizens submitted comments on only one of the rules, and participation by government agencies ranged from zero to 100 percent but was generally around 10 percent. Scott Furlong (1997) found specifically that “business” and “trade associations” were the most common type of group to have a “Washington representative” or a “government affairs” person listed in a publication titled Washington Representatives. Cornelius Kerwin (2003) reported, based on a survey of participants in rulemaking, that businesses and trade associations had the highest percentage of budgets and staff devoted to rulemaking. In a more recent study, Susan Webb Yackee & Jason Webb Yackee (2006) found over 57 percent of comments in a sample of nearly 1,700 comments submitted over a period of seven years were from business.

The evidence is clear that business submits a majority of comments on proposed rules, but the evidence on whether comments from business have the greatest effect on proposed rules (i.e., changes from proposed to final) is somewhat mixed. A few researchers have examined the effects of comments, asking whether comments have any

effects and/or whether comments from business are more likely to have an effect than comments from other interests. Golden (1998) examined the effects of comments asking whether proposed rules were actually changed as a result of the comments received. She found that most of the rules were changed only minimally and that changes “rarely altered the heart of the proposal.” (p. 259) The findings did not, however, indicate that agencies favored business interests over the public or other interests in their changes. Instead, the findings suggested that the agency would tend to favor comments that agreed with the existing proposal. “The voices of critics tend to be heard less clearly than the voices of rule supporters, even when there are more critics than supporters.” (p. 261) Balla (1998) found, contrary to the “deck-stacking” hypothesis of McCubbins et al. (1987), that the notice and comment process facilitated effective participation in decisions made by the Health Care Financing Administration (HCFA) and that “legislators’ favored constituents did not benefit disproportionately from the initial comment period.” (p. 669) From these findings, it is not clear whether business preferences are likely to prevail in the rulemaking process, only that businesses are more likely to participate.

Susan W. Yackee (2006) explains how the potential for comments to affect agency policy stems from the link to judicial review. Because of the potential for rules to be challenged in the courts, federal agencies provide ample opportunity for stakeholders to submit information pertaining to the rule. In the case of the Occupational Safety and Health Administration, there are almost always multiple formal opportunities to submit information to the agency pertaining to a rule under development. And as Yackee’s

(2006) research indicates, such opportunities are not merely for show. Information submitted by stakeholders during the formal comment period does affect final rules.

Yackee and Yackee (2006) also find that comments from business interests tend to have greater influence over agency rules than comments from non-business interests, a finding which suggests that notice and comment does not necessarily have a democratizing effect on rulemaking. However, they also note that comments from business interests tend to be more sophisticated and contain higher quality information than those submitted from non-business interests.

2.4.2 Determinants of participation

Individuals or groups participate in politics and policymaking because they expect the benefits of doing so to outweigh the costs. Regarding submission of comments on federal regulations, the costs may include the time spent compiling information and drafting the comment or the cost of consulting experts to better understand technical subject matter. The benefits to a person or organization of submitting comments may include influencing an agency to regulate according to their preferences, favorable attention from media, or having a comment “on the record” in case of later legal proceedings. Research has found that at least two factors, resources and the perceived effect of participation, determine the choice to participate in regulatory policymaking.

Scott Furlong (1997) measured the effectiveness of different methods of participation in rulemaking from the viewpoint of interest groups and compared those perceptions to the methods of participation used by those groups. Furlong’s 1997 study (based on a 1992 survey) and a more recent follow-up (Furlong & Kerwin, 2005, based on a 2002

survey) are unique in their examination of interest groups' perception of their own influence. Furlong found that 73 percent of interest groups in the 1992 survey were likely to have informal contact with agencies before a proposed rule (i.e., pre-notice phase) compared to 86 percent in the 2002 survey. In both surveys, more than 80 percent of those surveyed submitted comments during the notice and comment period, which corresponded roughly to the percentage of groups that found this method of participation effective. Opinions on the effectiveness of submitting comments have not changed much (84 percent finding the method effective in 1992 compared to 86 percent on 2002). It appears that groups find commenting an effective means of participation but find other methods effective as well. The 2002 survey showed that participation in public hearings had increased to 86 percent from 59 percent in the 1992 survey. Likewise, the percent of respondents who found hearings an effective means of participation rose from 63 percent in 1992 to 81 percent in 2002.

Research on the determinants of participation in private standard-setting, or *participation choice* as it is sometimes called, focuses on participation in the creation of accounting standards, which are created primarily by non-government organizations. In a study about participation in non-government accounting standards, Tandy and Wilburn (1996) found that factors affecting academicians' likelihood of participating in accounting standard-setting included low expectation of affecting the decisions of the Federal Accounting Standards Board (FASB), limited time and resources, and the costs of obtaining information about a standard and the standard itself. Jere Francis (1987) found that larger company size and higher cost of standards compliance determined the

likelihood of lobbying in the case of accounting standards. In later research, Christine Schalow (1995) found further support for this finding; her research showed that firm size (measured by net sales), the economic impact of the standard, and whether a company favored a particular standard were all determinants of participation. Larger firm size, higher economic impact, and opposition to a standard increased the likelihood of participation.

Existing research suggests that resources also affect the decision to participate in regulatory policymaking although the exact ways that lower resources affect the ability to participate are not clear. A dated but unique study by Schlozman and Tierney (1986) found that citizen groups, trade associations, and unions all considered an increased budget to be an important factor for influencing public policy but ranked it as less important than reputation, contacts, and well-known leaders. Corporations ranked increasing the budget below improving their reputation and increasing all other resources. The study also found that expertise was considered by most interest groups to be an important factor for influencing public policy.

2.5 Due Process for Private Standards

Many private standards are similar in content to government standards. For example, the A10.4 standard sponsored by the American Society of Safety Engineers (ASSE), Personnel Hoists and Employee Elevators on Construction and Demolitions Sites, contains detailed instructions for clearances, wiring, counterweights, and so on; it is very similar but contains more detail than the corresponding OSHA standard, Material Hoists, personnel hoists, and elevators, codified at 29 CFR § 1926.552. The Department of

Transportation (DOT) sets Federal Motor Vehicle Safety Standards (FMVSS) to avoid potentially unsafe variations in vehicle design, including what types of brakes are necessary, seatbelt requirements, and so on. Meanwhile, the Society of Automotive Engineers (SAE) creates more than 500 standards for automobile safety and many more standards that apply to commercial vehicles.

The fact that private safety standards are similar, in content, to safety standards created by federal agencies suggests that they are not inconsequential technical specifications. The same standards, if created by federal agencies, would be subject to due process requirements of informal rulemaking. Although they are not enforced by the federal government, private standards they may be binding in other ways such as through procurement contracts or through tort liability. The rest of this section describes the due process requirements that currently exist under the American National Standards System (ANSI), enforcement of those requirements, historical attempts to require administrative due process for non-government standards, and findings from past research relevant to due process in private standard-setting.

2.5.1 Current requirements

Many private standards created in the United States are developed under the due process requirements of the American National Standards Institute (ANSI) (*ANSI Essential Requirements*) or the ASTM International (*Regulations Governing Technical Committees*). This study focuses on the creation of standards under the ANSI requirements. Regarding notice and comment, ANSI requires a public review period whereas ASTM does not. It only requires notice of a proposed standard “to all persons

known to the Society to be likely to be materially affected by it.” The procedures used by non-government SDOs following the ANSI system are most similar to those in the APA and might be seen as a “best-case scenario” in terms of due process in private standards development. The *ANSI Essential Requirements* include notice, comment, and appeals, similar to the basic requirements contained in the APA. In addition to the ANSI requirements, there are a few federal requirements for due process in private standards development which only apply to standards that will be adopted by a federal agency.

2.5.1.1 Federal requirements

The National Technology Transfer and Advancement Act (NTTAA) of 1995 requires federal agencies to adopt voluntary consensus standards in lieu of developing government standards, wherever possible, and report the adoption of voluntary consensus standards to the National Institute of Standards and Technology (NIST). OMB Circular A-119, most recently revised in 1998, differentiates between “voluntary consensus standards” and other types of private standards. It defines voluntary consensus standards according to the process used to create them, a process defined by five elements: openness, balance of interest, due process, an appeals process, and consensus. Only one of these conditions, consensus, is accompanied by a definition. Consensus is defined as:

“...general agreement, but not necessarily unanimity, and includes a process for attempting to resolve objections by interest parties process for attempting to resolve objections by interested parties, as long as all comments have been fairly considered, each objector is advised of the disposition of his or her objection(s) and the reasons why, and the consensus body members are given an opportunity to change their votes after reviewing the comments.”

The Circular specifies that it does not preclude adoption of non-consensus standards and that if agencies adopt non-consensus standards, they are not required to report the use of those standards.

2.5.1.2 ANSI Essential Requirements

The *ANSI Essential Requirements* establish minimum requirements for due process in standards creation which are substantially similar to those laid out in the APA. Table 2-2 compares the requirements for notice and comment and appeals in the two systems.

Table 2-2. Comparison of ANSI and APA requirements

	Administrative Procedure Act	ANSI Essential Requirements
Applies to	U.S. government agencies that develop regulations	Organizations that develop American National Standards (ANS)
Notice & Comment		
Notice time before rule or standard becomes effective	30 days unless agency finds good cause for shorter time [§553(d)(1-3)].	30-60 days depending on the mode of publication (Sec. 2.5.2).
Content of Notice	(1) a statement of the time, place, and nature of rule making proceedings; (2) reference to the legal authority under which the rule is proposed; and (3) either the terms or substance of the proposed rule or a description of the subjects and issues involved.	"Notice should include a clear and meaningful description of the purpose of the proposed activity and shall identify a readily available source for further information." (Sec. 2.1)
Access to proposed and final standards	Public has access via the federal register [§552(a)(1)(D)]	Any person or group can obtain access to an American National Standard (ANS) by requesting a copy from the developer. Some, but not all, require a fee. Developers determine fees.
Who may submit comments?	"Interested persons" can submit "written data, views, or arguments" to the agency, and the agency must provide "basis and purpose" for issuing the rule in light of relevant comments. [§553(c)]	Anyone can submit comments on a proposed standard. There are no rules to govern how SDOs or ANSI must consider submitted comments.
Appeals		
Burden of proof	"...a defendant shall serve his answer within thirty days after the service of the complaint. The burden is on the defendant to sustain his action." [§552b(h)(1)]	"The burden of proof to show adverse effect [of a standard] shall be on the appellant." (Sec. 2.7.1)
Time limit for appeals	Established by each agency. [552a(f)(4)]	"Appeals of actions shall be made <i>within reasonable time limits</i> (emphasis added); appeals of inactions may be made at any time." (Sec. 2.7.1)
Who may appeal	"Each agency shall give an interested person the right to petition for the issuance, amendment, or repeal of a rule." [§553(e)] or "Any person..." on the grounds that the standard did not follow APA procedural requirements for notice and comment. [§552b(g)]	"Persons [with interests] directly and materially affected interests and who have been or will be adversely affected by any procedural action or inaction by a standards developer with regard to the development..., revision, reaffirmation, or withdrawal of an existing American National Standard, have the right to appeal." (Sec 2.7.1) To be considered as having a direct and material interest, a person must have commented on a standard when it was proposed or must have been a member of the consensus board.

Sources: Administrative Procedure Act; *ANSI Essential Requirements*, January 2013 version

Besides the ANSI requirements, there are very few other sources of due process protection that might apply to non-government SDOs. In a few cases, the federal government provides direct oversight of private regulators. One example is the oversight of the New York Stock Exchange (NYSE) by the Securities and Exchange Commission (SEC). Paul Verkuil (2005) discusses state enforcement of due process or fair procedure for private organizations in select cases. He also cites rulings which have enforced due process for private standard-setting organizations in antitrust lawsuits. However, beyond this, there are no overreaching requirements for due process that govern private standard-setting activities.

2.5.2 Proposals for federal oversight

Historically, there have been at least three attempts by the federal government to regulate due process in the creation of private standards: two Senate bills and one proposed rule from the Federal Trade Commission. The debate and information surrounding these draft policies, discussed in this section, shows that these proposed policies were largely a result of complaints by small businesses about the anti-competitive nature of private standards development. Some of the complaints concerned the ability to participate in the standards development process, making the background of these proposed policies important to forming the propositions of the present research.

2.5.2.1 *Senate Bills S. 3555 and S. 825*

Two bills were introduced in Congress in the 1970s which aimed to regulate the activities of non-government SDOs. The first of these two, the Voluntary Standards and

Certification Act of 1976 (S.3555), introduced in June 1976, would have required the Federal Trade Commission (FTC) to regulate private standards development by establishing: procedures to develop standards, certification procedures, and requirements for appeals bodies. With respect to procedures, the Act would have required the FTC to promulgate rules requiring: adequate notice; “an opportunity to present views during the standards-development process”; balanced committees “so as to include and to insure effective representation of all affected interests” including consumers, small businesses, labor, and others; and the right for any standards committee member “to appeal any action [taken] during the development of a standard.” The bill also required any “private organization” engaged in developing standards or certifying products to be certified by the Secretary of Commerce. To obtain certification, the organization would be required to comply with the due process requirements set forth by the FTC.

Several small business owners who testified at the hearings on the bill described economic hardships that stemmed from the anti-competitive nature of private standards development and the costs of certification. Discussion of the reasons for needing better due process focused on practices that hindered competition in the marketplace—e.g., delay in creating standards for new technologies, competitors sitting on standards appeals boards, small business interests being outvoted on standards committees—and how standards could defraud consumers by suggesting that products were safe because they complied with a private standard.

John Landis, president of the American National Standards Institute (ANSI) at the time, testified in defense of the ANSI system and pointed out that the procedural

requirements in the bill would not be greater than what was already required by ANSI. He went on to say that an analysis of “personnel participating in the work of some 240 committees” showed that 28 percent were from small businesses and 60 percent were from non-profits including labor organizations and government. It was not clear from Mr. Landis’ statement if *personnel* referred to committee members or other types of participants including subcommittees and/or outside commenters. A table of composition of committees that create occupational safety and/or health standards in Chapter 6 (see Table 6-1) shows that the 60 percent non-profit estimate could not be applied to the current composition of main committee members of occupational safety and health committees.

Other testimony on due process requirements in private standard-setting echoed Mr. Landis’ sentiment. Several standards developing organizations pointed out that their procedures were similar to what was in the proposed bill and that they offered ample opportunity for participation. The National Fire Protection Association (NFPA) called S.3555 “excessively complex, with destructive side effects” (p. 533) The president of Underwriters Laboratories (UL), Baron Whitaker, argued that the bill would not be able to fix the types of complaints about the standards and certification systems heard throughout the hearings and reminded the committee that a program that granted the FTC authority to overturn decisions of SDOs would involve “large, immeasurable costs for taxpayers.” (p. 258) Like Mr. Landis, Mr. Whitaker cited the size of UL operations—more than 500 thousand factory inspections in two years—implying that the problems were minor compared to the magnitude of decisions being made. (p. 255)

The second bill, The Voluntary Standards and Accreditation Act of 1977 (S.825), was introduced in early 1977, and contained requirements similar to those of the earlier bill. Hearings held in April and May of that year covered similar themes to those of the previous year; small businesses criticized the unfairness of the system, and large standards developers defended it saying that they already followed due process procedures and that it would be unwise to give authority over standards to the FTC. Conversely, a representative from the National Institute of Occupational Safety and Health (NIOSH) testifying at the hearings criticized ANSI standards on the basis that his health and safety team could not find technical documentation to support many of the requirements in the standards (Hearings before House Subcomm, 1977, p. 343). Other testimony on the bill included statements from standards developers and representatives of small business. Testimony from Sheldon Samuels, director of health and safety for the AFL-CIO at the time, testified about the fairness of the non-government standards system, pointing out that private standards were not voluntary and were not based on consensus. Not much attention was paid in these hearings to the issue of procedural adequacy, that is, whether the procedures used by most standards developers at the time, absent any malicious intent by large, for-profit interests, would be adequate to collect the information necessary to create the best standards.

2.5.2.2 FTC's 1978 proposed rule on standards and certification

In 1978, despite no statute having been passed by Congress, the FTC, through its existing authority under the Federal Trade Commission Act, proposed a rule which would

have established uniform due process procedures for non-government standard-setting organizations. The proposed rule was the culmination of the FTC's effort to better understand and reduce the anti-competitive effects of private standard-setting activities starting with the establishment of the FTC Task Force on Industry Self-Regulation in 1971. The rule was mainly concerned with the anti-competitive effects of the often irregular and burdensome processes of private standard-setting. Similar to APA requirements, the FTC rule would have required standards to go through a notice and comment process where notice would include a full statement of reasons for the standards so that interested parties could determine whether they wanted to participate. The proposed rule stated, "The information that standards developers currently include in their general notices is insufficient to permit persons to make an informed decision as to whether they want to participate." (43 FR 57629) In addition, the proposed rule would have required a notice of propose decision 60 days before the final standard was passed which would contain a "statement of the major substantive disputes that occurred and the reasons these disputes were decided as they were." (43 FR 57272)

The proposed rule stated that committee members should be selected from a variety of groups including producers and importers of competing products and production processes, consumers and consumer groups, state and local governments, retailers, environmental groups, and energy conservation groups. Labor unions or worker representatives were not mentioned in this list, probably due to the focus of the rule on economic issues such as anti-competitive behavior and product availability rather than safety issues. However, the final staff report of the FTC's Bureau of Consumer

Protection on the rule (Shroeder et al., 1983) highlighted many issues likely to affect smaller entities, including labor unions, which tried to participate in private standards and specifically discussed some perceived problems with privately developed occupational safety standards. The staff report contained evidence gathered by the FTC on the inadequacies of private standard-setting processes for ensuring due process. The report included an overview of the procedures of 64 standard-setting organizations, noting that many lacked procedures for handling complaints or that the procedures in place were not sufficient to adequately deal with substantive complaints. However, the final report did not contain a full explanation of the criteria used to make this determination. The report also recounted numerous examples of non-government SDOs not fully considering information that was submitted. These examples were based on complaints from both people who had participated in the process through committee membership and through submission of information from the outside. Other criticisms of the process outlined in the report included not having time limits for resolving complaints, narrow time windows for submitting complaints, and insufficient notice of meetings and hearings on standards.

With respect to notice of standards, the staff report noted that it would be difficult for outsiders to understand the basis for draft standards without membership on the committee. This problem has been resolved, at least in part, by many standard-setting committees currently allowing "observers" on committees, people who are invited to all meetings but who do not have voting privileges, and/or keeping relevant documents accessible on Wiki sites. However, this places the burden on potential commenters to take significant time to listen to meeting conference calls and read meeting notes and sort

through documents and information that supports a draft standard. In contrast, when a federal rule is proposed, the preamble clearly lays out the basis for the proposed rule and cites the major pieces of evidence and events which instigated the rule and helped to form the proposal.

Testimony from a NIOSH representative included in the report discussed how the standards can lead to misconceptions about safety, citing examples of standardized head protection equipment that did not provide protection from side impact. However, the same could be said of compliance with any federal safety or health standard. For example, compliance with OSHA standards does not necessarily guarantee safety and health any more than compliance with ANSI standards. The slew of anecdotal evidence presented in the report, while compelling, did not compare public and private standard-setting processes to show what was different. Furthermore, despite numerous complaints of deceptive practices and inadequate procedures, the authors of the report did not provide any conceptual explanation of why non-government SDOs or committee members might be inclined to include or exclude important stakeholders. It seemed to assume that the committees and their standards were necessarily created to exclude competing products and that the ANSI system was inherently incapable of producing a fair and informed outcome.

All policy systems will produce failed or unfair standards some of the time, whether they are promulgated by a federal agency, a state agency, or a private standard-setting organization. Although examination of final standards can reveal that a poor-quality standard was produced, these observations alone do not provide sufficient evidence that

the process of private standard-setting is any more likely to result in unfair outcomes than the process of public standard-setting.

2.5.3 Enforcement of due process in private standards development

2.5.3.1 *Antitrust and due process*

In a legal seminar on standard-setting in 2000, David Balto, an antitrust lawyer and then-assistant office director at the Federal Trade Commission, stated, “The antitrust jurisprudence on standard setting focuses almost entirely on collective standard setting¹⁰ and the process used to determine the standards.” Balto went on to explain that the “courts have treated procedural defects as evidence of anticompetitive intent.” Because courts are not equipped with the expertise to determine what standard was more appropriate in a given situation, they focus on the procedures used in standard-setting to judge whether a certain SDO was in violation of antitrust laws. In one of the most well-known cases of antitrust in standard-setting, *Allied Tube & Conduit Co. v. Indian Head, Inc.* [486 U.S. 492 (1988)], the courts found that a standard-setting association had excluded a new plastic conduit (manufactured by Allied Tube) from becoming part of the leading electrical code (developed by the National Fire Protection Association) by recruiting additional members (mostly electrical conduit manufacturers) to vote against standardizing the competing conduit. Not being accepted as part of the standard electrical code would most likely preclude adoption of Allied’s product in the marketplace. Justice Brennan, writing for the majority and finding in favor of Allied

¹⁰ The term “collective standard-setting” here refers to standards set by a group of firms, e.g., through an ANSI standards committee, as opposed to a standard set by a single firm.

Tube, affirmed that SDOs may not “[stack] the private standard-setting body with decision makers sharing their economic interest in restraining competition.” This decision is one of many that take the position that procedural bias can be used as a signal of anticompetitive intent. Balto (2000) inferred that one reason for this approach is that determining anticompetitive behavior in these cases is not as simple as examining market structure and that “courts are not well equipped to decide the relative superiority of different standards, particularly in high technology network industries.”

Accordingly, the American National Standards Institute (ANSI) highlights one benefit of using their process as “minimiz[ing] some legal risks by requiring procedural safeguards (re: antitrust,...).” (ANSI, 2012) Reducing the risk of antitrust allegations might partially or fully explain why private SDOs follow *any* due process at all, as opposed to public agencies reasons for following due process which include accountability to Congress, the President, and the courts.

2.5.3.2 *ANSI enforcement of due process*

In addition to being accountable to the courts for antitrust behavior, standards developing organizations (SDOs) that are accredited by the American National Standards Institute (ANSI) and are developing American National Standards (ANS) are accountable for ensuring that their standards development activities follow the *ANSI Essential Requirements* for due process. Accountability to ANSI means that each organization must have an appeal process and must respond to comments. There are three stages to

the ANSI appeal process: the standards developing organization, the ANSI Board of Standards Review, and finally the ANSI Executive Standards Council.

Though details about appeals cases are not made public on the ANSI website, some trade journals publicize the outcomes. For example, in November 2007, the construction industry filed a formal appeal of an ANSI standard (ANSI A10.40 Reduction of Musculoskeletal Problems in Construction) on the basis that the requirements of the standard were not based on scientific evidence and that the standards development process did not follow due process requirements. ANSI rejected the appeal, stating “it is the unanimous opinion of the Panel that the appeal(s) presented by each of the Appellants are without merit and are non-persuasive, and that the Secretariat has complied with ANSI Due Process as we understand it.” (ANSI Appeals panel decision, May 25, 2007)

2.5.4 Past research on voluntary standard setting

There is not very much in the way of empirical research on due process in private standard setting processes. The research that is most relevant to the present study is the case studies on standard-setting conducted by Ross Cheit in the 1980s. Cheit’s pioneering research, the basis for his book *Setting Safety Standards* (1990), though not specifically focused on due process, provided a great deal of insight on participation and due process that helped to form the direction of this research and the original propositions. Cheit’s research goal was to “evaluate the relative performance of public and private standards setting.” Through four paired case studies of public and private standards, he sought to answer the questions “How well does each sector regulate safety?” and “Is the public or the private approach generally better?” The research

question of this study (Is participation equally effective in public and private standard-setting?) has a difference focus, and the area of inquiry (all occupational safety and health standards) is more broad (Ross Cheit compared four specific sets of standards).

In his comparison of the different regulatory philosophies of the public and private sectors, Cheit notes that, while both have a great deal of discretion over the final decision, the public sector has to satisfy more rules of evidence (e.g., cost-benefit analysis) than the private sector. He further points out that because private safety standards are sometimes created prior to any injuries, there is no data to suggest what the benefits would even be. In low-cost scenarios, engineers are provided with great deference over standards in the private sector. This can result in standards that are “unreasonably strict (but economically inexpensive)” (p. 165), inexpensive for industry to adopt, that is. The respondents in this study suggest that overly strict solutions which are not based in reality can make work conditions difficult or impossible, an important reason for labor unions to participate besides protecting the safety and health of workers.

Cheit also described the two primary legal incentives faced by private standard-setters – antitrust law and tort liability. He aptly notes that only the most visible decision in private standard-setting, the final vote, is susceptible to antitrust lawsuits, yet this is not where the most important decisions are made. He also suggests that, even though nearly all standards exclude things, standards developers selectively cite antitrust concerns as an excuse not to set certain standards. In addition to antitrust law, Cheit discusses the effects of liability law on private standards design and states that:

“...liability law seems to explain reluctance of the private sector to (1) recognize or address issues of consumer misuse, (2) embrace certain new technologies, and (3) include work rules or operational controls in safety standards.” (p. 190)

Regarding the ability of each sector to collect relevant information necessary to create standards, Cheit's analysis uses the case studies to highlight the institutional advantages of each. The private sector, given heavy involvement by engineers, has a distinct advantage over the public sector in terms of “technical know-how.” If you need to design a harness that will hold X amount of weight at X angle for X length of time, the private standard-setting committees are your huckleberry, so to speak. But whether that perfectly designed harness is the most appropriate solution to a real-world safety problem is a different question. Cheit found that the public sector is actually better equipped to collect information on accident scenarios and trends and that the private sector committees were more likely to base decisions on incomplete or anecdotal information. He points out that even large, private standards committees, such as the one he observed under National Fire Protection Association (NFPA), “do not have budgets” and do not “conduct applied research to support standard-setting activities.” (p. 201)

Finally, Ross Cheit evaluates the prescription for more due process as a solution to improving safety standards. He acknowledges the widespread belief that private standard-setters are more dominated by “business interests” and notes that the solution of “procedural rationality” is often invoked when policy problems become complex. When it becomes too difficult to compare the quality of the outcome, the quality of the process is compared instead. With respect to notice of private standards, private standard-setters

provide “notice” in a timely manner in multiple places very similar to public agencies, suggesting that “any differences in “notice” rules are unimportant.” (p. 213)

With respect to comment opportunities, Cheit found that responses to comments are common in both the public and the private sector. The private sector must respond to comment as part of its requirements to reach consensus under the *ANSI Essential Procedures* and the public sector must respond to comments as part of its statement of basis and purpose. Cheit concluded that “the forms of participation are often more limited in the public sector than in the private” (p. 217), which he based on complaints that the public sector is less accessible during the rule writing process. There are specific opportunities for comment in the public sector, e.g., hearings and notice of proposed rulemaking, whereas people can attend most meetings of private standards organizations. There is less “direct dialogue” between stakeholders and policymakers on the public side and more informal meetings on the private side. Despite select examples of one committee or agency performing better at providing responses to comments, Cheit concludes that “...response to comments in both sectors is prone to superficiality.” (p. 218) Cheit’s work suggests that there are no differences in due process in public and private standard-setting that would necessarily lead to differences in the final standards. He states that “the procedural perspective seems to gloss over, rather than illuminate, the most important aspects of standard-setting.” (p. 220).

2.6 Democratic Criteria for Evaluating Participation

Daniel Fiorino (1990) and Frank Laird (1993) outline normative democratic criteria for evaluating participation mechanisms in complex technical policy decisions. Criteria

for what is considered effective democratic participation vary some depending on whether one assumed a perspective of direct participation or pluralism. Criteria based on the two perspectives, as summarized by Laird (1993), have more similarities than differences. Criteria for an effective participation mechanism from a direct participation standpoint include:

- *a large percentage of individuals participating,*
- *understanding of the issues (requires participants to be informed),*
- *resources to participate (resources to gather or create information and to provide that information), and*
- *some level of influence over decisions (not just an opportunity to be heard) (pp. 347-8)*

From a pluralism standpoint, criteria for an effective participation mechanism include:

- *large number of groups participating,*
- *opportunities for learning (e.g., ability to acquire expert personnel),*
- *access to policymakers (to present information), and*
- *a means of coercion. (pp. 346-7)*

Archon Fung (2006) takes a different approach to evaluating the effectiveness of participation mechanisms where he examines forms of participation along three dimensions: who participates, how participants communicate and make decisions, and how that participation is linked to policy outcomes. Drawing a range of possibilities for each dimension, he constructs a “democracy cube” and shows that where participation mechanisms land in this cube reflects how well they can address three important problems of democratic governance which are legitimacy, justice, and effective administration.

2.7 Summary

Forms of participation in decisions of U.S. federal agencies vary depending on the type of decision being made (e.g., rules, guidance, etc.), the complexity of those decisions, and on the potential political and substantive outcomes of those decisions, among other things. In addition to the typical notice and comment procedures required for informal rulemaking, there are many other participation mechanisms used in public standard-setting that include informal hearings,¹¹ advisory committees, citizen juries, and regulatory negotiations, to name a few. Notice and comment is also used in the private standard-setting process under ANSI; other forms of participation include committee meetings where members of standards committees (typically 15-40 people) gather to discuss issues related to a standard that is being developed. All of these methods can be used to gather information for the purposes of creating a standard, and some could be more effective than others depending on the type of policy and the type of participant. Despite the array of participation methods that have been used in federal rulemaking and private standard-setting, there has been little research on which methods are most effective, and different criteria would apply depending on the measure of effectiveness (e.g., conducive to political equality, efficient for policymakers, etc.).

This chapter provided an outline of due process, explaining the basis for and use of administrative due process requirements in federal regulations. The chapter focuses

¹¹ Informal hearings are open meetings of a government agency where stakeholders can present information about a topic before the agency. They differ from formal hearings where an administrative law judge would gather information needed to make an administrative order. Informal hearings are sometimes used as a tool to gather information for an informal rulemaking, but, as discussed in this chapter, participation mechanisms are rarely limited to this mechanism.

especially on the relatively few, but strictly enforced, due process requirements for informal rulemaking from the Administrative Procedure Act. Four elements—adequate notice, an opportunity to provide comment, a statement of basis and purpose, and the opportunity for appeal—are emphasized by the legislative history and court decisions as being critical to the creation of fair and accurate rules. The main purpose of APA due process requirements is to collect information the necessary to make quality standards and to ensure that policymakers are accountable for considering that information. Other factors besides a formal system of notice and comment determine the effectiveness of a policy system to collect information. Decision of people to participate in the standard-setting efforts of federal agencies or non-government SDOs depends, at least in part, on a perception that their participation will be effective and on the availability of resources to participate.

All private standards created as American National Standards (ANS) follow due process requirements that are similar to those required for federal rulemaking under the APA, which include at least notice and comment and appeals. There have been previous proposals for both legislation and regulation to impose federal oversight of non-government standards creation, but none were ever finalized. Previous research by Ross Cheit (1990) found that participation in both public and private standards developing systems could be superficial in nature and concluded that due process procedures “make little difference to the underlying dynamics of decision-making.” This research will compare the effectiveness of participation in two systems, one public and one private, based on the purpose of APA due process requirements and on democratic criteria.

CHAPTER THREE: RESEARCH DESIGN AND METHODS

The previous chapter described due process requirements for rulemaking, discussed factors that affect participation, and established criteria for measuring the effectiveness of participation. This chapter states the research question, lays out three propositions based on the background information reviewed in Chapter 2, and describes the research methods and sources of data used in the study.

3.1 Research Question and Propositions

The research question of this study is:

Is participation in public and private standard-setting equally effective? Why or why not?

Based on the discussion of the purpose of administrative due process requirements in Chapter 2, a participation system is considered *effective* if it succeeds in gathering information pertinent to the creation of a particular policy and if policymakers are accountable for considering that information. The combination of the four elements of administrative due process—notice, comment, rationale, and appeals—should ensure that information relevant to a policy is submitted to the policymakers. Chapter 2 showed that due process requirements for two national standard-setting systems, the APA and the *ANSI Essential Requirements*, are similar in content, but there are at least three important differences between the two which could determine the effectiveness of participation in either system.

First, the content of the notice is different. Although both the APA and ANSI require notice of a standard and a solicitation for comments to be published at least 30 days before it becomes final, a notice of a rule by a federal agency is usually several pages long in the Federal Register, and the notice for an ANSI standard is generally no longer than a single paragraph. A federal Notice of Proposed Rulemaking (NPRM) often includes a preamble that contains the history of the situation or the problem that necessitated the rule or standard, prior decisions made by the agency on the issue, a justification for why the proposed rule or standard was chosen over the potential alternatives, and technical justifications for various elements of the proposed standard. The ANSI notice, in contrast, typically comprises the name of the standard, the name of the standards developing organization (SDO), a short description of the standard (generally 3-5 sentences), and the purchase price for the draft standard. In some cases, notice of an ANSI standard will also contain a hyperlink to a document that shows the specific changes to the standard.

The second major different between the public and private standard-setting process is that to read the full content of a private standard that is being proposed, often one must purchase it. Some non-government SDOs provide their standards, at least read-only copies, free of charge. For those that charge, the purchase price is sometimes less than \$20 but may be several hundred dollars or even more. The full content of a government standard or rule (i.e., the exact proposed changes to the Code of Federal Regulations) is available at no cost and is usually posted in its entirety in the Federal Register along with the NPRM. Even in cases where a federal rule adopts a private standard, making it

mandatory, the standard is usually “incorporated by reference” rather than being fully written out because copyright prevents it from being published in the Federal Register. There is not a charge for the draft standard in all cases. Some are provided free of charge but must be requested, and sometimes, the changes to the previous standard are even provided in the notice which is posted in the *ANSI Standards Action* publication.

A third difference between the notice and comment process in the public and private system is that a rule or standard created by a federal agency is subject to judicial review. Private standards created under the ANSI system are subject to ANSI review, but this does not consist of a hard-look test like what can be administered by the courts. This difference could affect how information is considered and, hence indirectly, affect what information is submitted. Three propositions were formed based on these differences:

1. More time and/or expertise is needed to submit comments on non-government standards than government standards because the preamble for federal rules helps to contextualize the notice and inform people what information will form the final basis for the rule.
2. The cost of purchasing a draft standard presents an obstacle to some groups who wish to participate in the creation of private standards by submitting comments.
3. Prospective commenters *expect* that submitting formal comments on rules is less effective in private standard-setting than in government standard-setting because of the different accountability structures and are therefore less likely to devote time and resources to submit information to the standards development process in non-government standard-setting.

A pilot study aimed to test these propositions through the use of a specifically worded survey and interview protocol. However, the data collected in this pilot study was difficult to interpret (explained more in Chapter 5) and the research design was adjusted to a more open interviewing approach using largely unstructured interviews. The data from the open interviews was coded inductively and a final set of interview questions was

developed with the goal of clarifying certain concepts from that data. The rest of this chapter describes qualitative research, in general, and explains the data collection process used in this research. The data analysis is described briefly but is described in greater depth in Chapter 5.

3.2 Qualitative Research

Qualitative research, as Anselm Strauss and Juliette Corbin describe it, is “any type of research that produces findings not arrived at by statistical procedures.” (1998, p. 10) Though many studies might rely on some form of qualitative data, if that data is categorized or coded in such a way so as to make it fit for statistical analysis, the research is not actually qualitative. The primary reason for conducting qualitative research is that the research question cannot be adequately answered by quantitative inquiry and statistical analysis. In qualitative work, researchers design research questions rather than hypotheses. And, unlike quantitative studies, findings are constructed inductively and should ultimately be based on the data, not pre-conceived ideas that the researcher or other authors bring to the study. (Creswell, 2007) In qualitative research, hypotheses “are typically formulated after the researcher has begun the study.” This is different from quantitative work where hypotheses are developed prior to data collection and then tested. (Maxwell, 2005, p. 69) However, it is also possible to test theories or confirm their relevance using qualitative research. Alexander George and Andrew Bennett (2005) explain that if theories are “fairly well developed,” they can be tested using case studies. However, they advise researchers not to refute a theory on the basis of a single case, but rather to use evidence from the case to suggest ways that the scope of a theory could be

narrowed or otherwise refined. In the present study, propositions about the effectiveness of participation were generated based on existing research theory and research and were further refined based on data collected in the research.

The opposite of qualitative research—statistical research based on “sharply defined and delineated populations, cases, and variables, and well-specified theories and hypotheses” (Ragin et al., 2004)—is often referred to, somewhat incorrectly, as quantitative research. It is usually a harmless label as long as researchers understand the use of qualitative and quantitative *data* is not always the same as the use of a qualitative or quantitative research design. And although quantitative research currently dominates a great deal of [published] political science research, qualitative research has an important role in scientific inquiry, one that should not be minimized.

John Creswell (2007) outlines five approaches to qualitative research: case study, narrative research, phenomenology, grounded theory, and ethnography. Research questions that ask “how” or “why” something happens generally require the need for more in-depth investigation that is best accomplished through case studies (Yin, 2004). According to Robert Yin (2004), case studies can fall into one of three categories—exploratory, descriptive, or explanatory—or can be a combination of one or more of these. Ideally, case studies should be based on multiple sources of evidence or data and those data can be qualitative (e.g., interviews, observation) or quantitative (e.g., survey). Using multiple sources and types of data in a case study can strengthen the conclusions if information from each source corroborates the other(s); this is referred to as data triangulation and is one way to increase the validity of qualitative case studies. This

research is a case study that uses the coding techniques of Strauss and Corbin's grounded theory method to analyze the majority of the data which come from interviews.

However, the research also makes use of data and information that is not *coded* to help shape and contextualize the findings.

3.2.1 Selecting the area for inquiry

An important challenge of qualitative research is that the boundaries of a case or area of inquiry can be difficult to define. George and Bennett (2005) direct researchers to begin their case study research by "clearly [identifying] the universe...of which a single case or a group of cases to be studied are instances." (p. 69) Creswell (2007) advises researchers to select clear boundaries for their case or cases, including what events, time periods, processes, and so on, are included in each (p. 76). Conversely, Howard Becker would tell researchers to define their case only tentatively at the outset because the "...relation of ideas to evidence answers the question "What is this a case of?" (Ragin, 1992, p. 6)

The circumstances of each research project make it necessary to consider many factors simultaneously when creating a research design and selecting a case. Sometimes the information needed to make some of the major design decisions can only be acquired through data collection, which was true of this research. The evidence collected during the pilot study was important to understanding how to best limit the area of inquiry. From the early interviews, it was clear that most information collection in private standard setting did not occur during the formal notice and comment period. Instead, it occurred informally through committee discussion and correspondence. Committee

meetings followed by a notice and comment period is the primary method used to create private standards. This is different from the most common method used by government agencies, which is a combination of a written notice and comment period along with hearings, stakeholders meetings, and other less formal opportunities for input. Given the differences between the two, the cases were bounded at the level of the “standard-setting system.” Each standard-setting system, which could be a private system, a state system, or a federal system, would be treated as a separate case as it would perform differently on the effectiveness criteria from Chapter 2.

The main boundary of the cases was the policy area or the policy field. For the purposes of this study, policy area is defined as: *all types of standards that fall under the purview of one federal agency*. For example, all standards developed by the Environmental Protection Agency would be “environmental policy,” all standards developed by the Occupational Safety and Health Administration would be “occupational safety and health policy,” and so on. Of course, policy areas are not fully demarcated by federal agencies; environmental policies are made by agencies other than EPA and occupational safety and health policies are made by agencies other than OSHA and MSHA. Policy area could be defined very broadly (e.g., environmental policy, energy policy, etc.) or more narrowly (e.g., baby product safety, higher education policy, etc.). For this study, policy area was bounded by the topics that fell under the purview of the primary federal agency that makes policies in that area.

Each year, federal agencies submit a report to the National Institute of Standards and Technology (NIST) on compliance with the National Technology Transfer and

Advancement Act (NTTAA). The report lists how many private consensus standards the agency adopted, how many government standards the agency created in lieu of private standards, and the non-government SDOs-setters whose activities the agency participated in. Table 3-1 shows the list of non-government SDOs that set standards in the same policy areas as two federal regulatory agencies, inferred by their participation in the activities of these groups.

Table 3-1. Example of government and non-government standards developers in two policy areas

Policy Area	Government	Non-government
Environmental Policy	Environmental Protection Agency	<ul style="list-style-type: none"> • ASTM International (ASTM) • Building Officials & Code Administrators International (BOCA) • Green Seal Standards for Adhesives (GSSA) • Institute of Electrical and Electronic Engineers (IEEE) • International Electrotechnical Commission (IEC) • National Electrical Manufacturers Association (NEMA) • National Fire Protection Association (NFPA) • NSF International (NSFI)
Communications Policy	Federal Communications Commission	<ul style="list-style-type: none"> • Accredited Standards Committee C63® Electromagnetic Compatibility • Alliance for Telecommunications Industry Solutions (ATIS) • Federal Geographic Data Committee (FGDC) • Institute of Electrical and Electronic Engineers (IEEE) • Intelligent Transportation Society of America (ITSA) • International Civil Aviation Organization (ICAO) • International Electrotechnical Commission (IEC) • International Maritime Organization (IMO) • International Telecommunication Union (ITU) • Radio Technical Commission for Aeronautics (RTCA) • Radio Technical Commission for Maritime Services (RTCM) • Telecommunications Industry Association (TIA)

Source: National Institute of Standards and Technology, NTTAA Agency Reports 2010; Available at <https://standards.gov>

Occupational health and safety was chosen as the policy area for this case because the subject matter is less technical than some other types of safety standards (e.g., nuclear safety standards) and the subject is appealing to a wide audience. Also, one goal of the research was to examine the ability and willingness of certain groups (small businesses, consumer groups, labor unions) to participate in the development of private standards as a follow-up to Hamilton (1978). Data from the pilot study suggested that effectiveness of participation could vary depending on the participant type. As will be noted in Chapter 5, data collection examined participation by labor unions, consumer groups, and small businesses in the beginning. The decision to focus specifically on the experience of labor unions within these policy systems was not made until after some data had been collected. After conducting open interviews with several types of participants, it became apparent that only one of the policy areas and one type of participant could be pursued in depth. Labor unions were chosen as the focus for the type of participant and the choice to focus on occupational safety and health standards followed from that decision.

3.2.2 Data sources

The data sources for a case study can come from several sources. The primary source of data used for this research was qualitative interviews. In addition to interview data, OSHA hearing transcripts, articles about standards in industry publications, standards themselves (specifically committee lists), information on the revenues of non-government SDOs, and some website content were used to shed light on the research question.

3.2.2.1 *Qualitative interviews*

Qualitative interviews can be used to “understand experiences and reconstruct events in which you did not participate” (Rubin & Rubin, 2005, p. 3) and are useful for “uncovering the agency of individuals” (Soss, 2006, p. 142). Both of these were important to answering the research question. Since the effectiveness of a participation process ultimately depends on the capacities and decisions of individuals, it was important to learn directly from the people involved the reasons for their actions. Interview data from policymaking staff, in federal agencies and at standards developing organizations (SDOs), focused on why labor unions are invited to participate in policymaking efforts and what they contribute to the process. Interview data from labor union representatives and other participants in standard-setting focused on both their ability to participate and the reasons that did or did not choose to participate. Extracting this type of information from the interviews was a challenging aspect of the research which required skill with probing and encouraging deeper descriptions that was learned throughout the course of the research. More experience also showed what to expect from the interview process, e.g., how long respondents could pay attention, how to word questions to get respondents to provide longer answers, how to redirect people that were veering too far off topic, and how to prepare for interviews to make them as productive and efficient as possible.

As Maxwell notes, “[...]interview questions] don’t necessarily resemble, or follow by logical deduction from, the research questions.” (2005, p. 91) The interview questions may resemble the research questions, but it is most important that they are effective for

extracting information from the respondents that is needed to make comparisons. Qualitative interviews are typically guided by an interview “protocol” or “guide,” basically a document which contains main questions and potential probes to draw out data on specific issues and to help the researcher keep his or her focus throughout the interview. (Rubin & Rubin, 2005)

Most of the early, open interviews consisted of three main questions, which were very general in nature and were intended to simply start the discussion about participation in occupational safety and health standards, basically the “opening the locks” approach described by Rubin and Rubin (2005). The probes and follow-up questions varied by interview, but the main questions or question areas remained the same. Most interviews began with a question that asked the respondent to describe his or her background and how they became involved in the creation of occupational safety and health standards (or other types of standards in the early interviews). This opening question was used for all types of respondents, including labor unions, standards development staff, and others. Then representatives from labor unions were asked to discuss their experience participating in voluntary consensus standards and mandatory standards. In some cases, respondents did not have experience participating in federal standard-setting; they had never submitted a comment, attended a hearing or stakeholder meeting, so I did not ask that question. Staff members from SDOs or federal agencies were asked to describe their efforts to inform labor unions and recruit them to provide input to standards development efforts. During the interviews, I would use probes, e.g., “Could you explain what you meant by your statement that...?”, “Could you explain that process more?”, or “Why did

that happen?” The most common questions used in the open phase of interviewing, which spanned across approximately 50 interviews, can be found in Appendix C. These questions spanned across the first 50 interviews. The final, semi-structured interview questions were used to collect data from 17 respondents, 13 who participated in the creation of OSHA/MSHA standards and 8 who participated in the creation of ANSI standards. These final questions and commonly used probes can be found in Appendix E.

3.2.2.2 Documents

In addition to interviews, several types of documents were reviewed and influenced questions asked in the interviews. The search for documents was often related to data from the interviews. Documents included articles from trade journals, OSHA hearing transcripts, non-government standards, committee meeting notes, ANSI appeals documents, etc. Unlike the interviews, the documents were not usually open coded. Instead they were combed for evidence to help shape the concepts and triangulate or explain findings from the interviews.

3.2.3 Sampling

Sampling in qualitative research does not follow the statistical principles of representativeness and sample size that are used in quantitative research. Instead, respondents are sampled based on their ability to provide information about the research question and/or to confirm or disconfirm hypotheses. Two different sampling strategies were used in this research: purposeful and theoretical sampling. Imelda Coyne (1997) explains that purposeful sampling is distinct from theoretical sampling. Purposeful

sampling is often used in “the initial sample” for the purpose of “[examining] the phenomena where it is found to exist.” Theoretical sampling occurs when the researcher “determines where to sample next according to the emerging codes and categories...” (p. 625) In other words, the researcher should look for sources of data with the goal of better describing concepts, filling out categories, and confirming or disconfirming relationships between the concepts. Though it is important to understand these categories and the reasons for different types of sampling, in reality it might be difficult to know which respondent will be the best choice for theoretical sampling. The different strategies were used at different stages throughout the research, but the stages blurred together somewhat as the needs of the research did not change suddenly and distinctly.

The study began with purposeful sampling of three types of people: 1) participants in standards (including labor unions, consumer groups, and small businesses), 2) managers/directors at standards development organizations, and 3) rulewriters at federal agencies. Names of participants in federal standards and contact information were first gathered from the federal register (Regulations.gov). Participants in safety standards from labor unions and consumer groups were chosen specifically based on job titles. Second, snowball sampling (Patton, 2002) from the first stage of respondents led to interviews with chairs of ANSI standards committees, labor representatives from union locals, safety consultants, engineers, and academics who participated in the development of public or private standards. To obtain referrals, respondents were asked if they knew of anyone who had experience participating in standards that might be willing to participate in an interview. Once themes began to emerge from the data, a theoretical sampling approach

was used to gather more specific data from respondents, some of whom had already been interviewed, to verify inductive findings from the open interviews.

The profile of interview respondents in Appendix A shows the dates of interviews, the relevant policy area (i.e., occupational safety and health, consumer safety, transportation safety), and the positions of the respondents. The policy area column shows that interviews were conducted across several policy areas in early data collection and then narrowed to only occupational safety and health. The position column shows that the respondent type branched out from labor union safety and health directors to other people who were involved in the development of standards, including engineers and safety consultants. The latter tended to be more involved with committee recruitment and offered valuable perspectives about the ANSI standard-setting process.

3.2.4 Effects of the research design on findings

Each case is bound by the standard-setting system (i.e., OSHA/MSHA or ANSI), the policy area, and the type of participant. One of the limitations of this design is that the universe of ANSI standards developers, let alone all non-government SDOs, in any policy area is large and it would be hard to collect data about each of them individually as part of a case. Information about participation in a subset of these will have to be generalized to the others. A second limitation is that conclusions about which system has more effective participation will be based on the perspective of one group and will be based mostly on interviews which can be subjective. Finally, although all government standards developers (i.e., federal agencies) follow the requirements of the APA and all non-government SDOs in this research follow the ANSI due process requirements, there

are additional due process rules specific to each government agency and each non-government SDO that will also affect participation. A finding that participation is effective in one system might only apply to other standards developers to the extent that they have the same rules.

3.2.5 Field work

3.2.5.1 *Gaining entry*

The largest obstacle to gaining access to respondents for this research was that the ideal respondents were people who were late in their careers and, therefore, busy and often hard to schedule time with. The recruitment process used a basic recruitment text which conveyed my name, affiliation, and the purpose of the research. Most of the initial recruitment attempts were made via telephone. Telephone recruitment was found to be more effective because it allowed the person to ask questions right away if they did not fully understand what was being requested, which happened in almost every case. If people agreed to participate, they were asked to sign and return a consent form, which was delivered via email. Some people said they would need permission from their employer, agency, organization, etc. to do the interview. All but two people who agreed to do the interview on the recruitment call actually participated.

In the case of federal agencies, respondents were recruited by first contacting ethics personnel at each agency to inform them of the research before calling agency employees directly. All of the federal agencies that were contacted insisted on providing contacts by

name for recruitment. The lists of contacts were used as the source of potential respondents, but the recruitment text was still used to the greatest extent possible.

Some of the strategies used to increase the likelihood that a respondent would be willing to interview were to contact people from related organizations solely for the purpose of gaining referrals. Referrals were provided through the National Council for Occupational Safety and Health (COSH) this way. Most respondents were also asked, at the end of the interview, if they knew of anyone that would be a good candidate for the research.

3.2.5.2 The interview process

Preparation for interviews began before the initial recruitment call was made. To the extent possible, information was gathered about the respondent's work and how it was related to standards. This made it possible to offer specific reasons as to why they were selected for the interview which seemed to increase the likelihood that they would participate. It also helped to contextualize any information they provided in the initial recruitment call.

Most interviews were conducted by telephone; only four were conducted in person. Busy schedules made phone interviews the preferred method of contact for most people. Interviews were recorded in most cases (with written permission from the respondent); during phone interviews, the conversation was recorded using speaker phone and/or an iPhone call recording app. Only four respondents did not agree to be recorded. Those

interviews were transcribed during the interview and filled in as much as possible after the interview.

One of the strategies used to improve the quality of the data was asking people why others might have made certain decisions. It was discovered that people were not likely to provide detailed accounts of the basis for their own actions, but they would often do this to describe the actions of others. Even if people were wrong about their perceptions of why people did certain things, they would at least reveal some of the reasons why someone *would* do something. This technique was useful for uncovering incentives faced by unions, policymakers, and other participants in the standard-setting process. To employ this technique, which could be termed the “gossip” technique, a respondent would be asked, if they discussed the actions of another person, to explain why they thought another person made a certain choice. Some would respond that they did not know, but some would offer rationales for the actions and decisions of other people. In general, it was a useful technique that can be employed in interview research where incentives are based on a shared knowledge of a system but are difficult to pinpoint.

3.3 Data Analysis

The data collected in this study was analyzed using thematic analysis with the procedures used by Strauss and Corbin (1998) in their book *Basics of Qualitative Research*. In their book, Strauss and Corbin teach methods for creating grounded theory. The pilot interviews were analyzed using open coding, and codes were categorized into categories and subcategories. The data analysis techniques are described in more detail in Chapter 5. For the data analysis of the final interviews, a similar coding strategy was

used to distill the raw interview data into themes. Fewer questions were asked in the final interviews, so data was coded primarily within each question response unlike the earlier open interviews where much of the data was coded to belong in a category that did not necessarily match the question that elicited the response.

3.4 Research Ethics

Approval by a university's institutional review board (IRB) (sometimes called a human subjects review board) is necessary to conduct most research involving human subjects. This research was considered "exempt research" by George Mason University's IRB, meaning that it did not have to undergo a full board review to be approved and annual renewals were not required. The IRB approval process required submission of a description of the research, recruitment texts, consent forms, and interview protocols. For qualitative work, submitting an interview protocol can be a challenge because the questions can vary. To avoid having to submit amendments every time a question changed, the interview protocols used "question areas" rather than precise questions. The IRB accepted the use of question areas rather than specific research questions. The board was not lenient on the recruitment texts, however, and would not allow the use of a generalized recruitment text. The IRB required a specific recruitment text to be submitted stating *exactly* what would be said to recruit respondents. These texts were developed and submitted, but it was nearly impossible to stick to them in practice because potential respondents would interrupt and begin to ask questions, ask if they could call back, request that another person be contacted for approval (e.g., a communications officer), or some other unexpected event would occur during the

recruitment. Each of these would necessarily change what had to be said to explain the purpose of the research and how or why they were selected. Another requirement for most human subjects research is for the researcher to collect a signed consent form from each participant. This was done usually by emailing the form to the respondent which they then signed and returned by email or fax. The consent forms and recruitment texts can be found in Appendix B.

3.5 Summary

The goal of the research is to compare the effectiveness of participation in public and private standard-setting for collecting relevant information. Is the process effective in the sense that stakeholders know what is happening in time for them to submit information, and does it ensure that stakeholders are able to submit *meaningful* information? And are policymakers accountable for considering that information? What aspects of the situation (e.g., accountability of policymakers, forms of communication, expertise, financial power, etc.) determine the effectiveness of participation in a policymaking system? To limit the sources of variation, this research compares the effectiveness of participation of one type of participant—labor unions—in one type of standard—occupational safety and health standards—created in the public sector by OSHA or MSHA and created in the private sector under the ANSI system.

CHAPTER FOUR: OCCUPATIONAL SAFETY AND HEALTH STANDARDS

This chapter provides a brief history of occupational safety and health standards in the United States. Public standards evolved in response to workplace tragedies and better statistics, and private standards evolved in response to the changing legal framework, which was brought about in part by the development of public standards. The processes of standards creation under OSHA and MSHA and under ANSI are described. The descriptions of process in the federal sector are based on information from the Department of Labor website, scholarly articles, and descriptions from the interviews. The description of the ANSI standard-setting process is based on scholarly literature including Hamilton (1978) and Schepel (2005), ANSI publications, and on descriptions from the interviews.

4.1 The History of Occupational Safety and Health Standards in the U.S.

As the U.S. entered into the Machine Age in the late 19th century, there was a sharp increase in occupational injury and illness. Though no comprehensive data was collected on occupational injuries and fatalities during that time period, scattered reports indicate that employment in industries where mechanization had replaced manual labor was deadly. Available data shows a significantly higher fatality rate compared to current conditions. Occupational fatality rates for coal miners averaged 3.29 per 1,000 over the years 1911-1915 compared to 0.25 per 1,000 from 1996-1997. (CDC, 1999, p. 465) In

1901, American railroad workers had an occupational fatality rate of 2.5 per 1,000 (Aldrich, 1997) compared to 0.15 per 1,000 annually from 1998-2002 (Drudi, 2007, p. 22).

The high injury and fatality rates of American workers were attributed to the more intense focus of U.S. companies on productivity, e.g., relative to their European counterparts. (Aldrich, 1997) Boilers were prone to explosion, pulleys and conveyors frequently sucked in clothing tearing off limbs or worse, unguarded drills and other machines impaled arms and hands; workers were crushed, scalped, dismembered, and killed in the most gruesome ways imaginable. Steel factories were notoriously dangerous as were meat-packing plants, paper mills, and railroads. Also fatal or life-altering but far more insidious, given the lack of science and tracking at the time, were illnesses from exposure to industrial chemicals in the workplace. It typically took decades to recognize a pattern in industrial health and trace its cause, and even then, it was rare for employers to compensate workers for occupational illnesses. (Abrams, 2001; Aldrich, 1997)

The legal framework that shaped reparations for occupational injury and illness has evolved considerably over the past century. Prior to workers' compensation laws, injured workers had to prove many things to be eligible for damages. An injured worker had to prove that an employer was negligent (contributory negligence), that s/he had not contributed to his/her own injury, that a fellow employee had not contributed to his/her injury (fellow-servant rules), and that they did not know of the risk prior to the injury (assumption of risk). (Hammer & Price, 2001) Employers typically carried liability insurance for injuries, but an injured worker or his/her family had little hope of

successfully fighting the attorneys of an insurance company on all of these points, especially without the income of the employee who may have been severely disabled or killed.

Around the turn of the 20th century, driven by a substantial increase in occupational disasters and improved statistics, state governments and the federal government began to enact laws piecemeal to provide better protection for workers. Prior to the first successful workers' compensation law enacted by Wisconsin in 1911, there was a federal workers' compensation law for railroad workers. Various state laws requiring factory inspection and machine guarding were also passed. Occupational safety and health standards have been created in various forms by government (federal and state) and non-government entities since around the beginning of the 20th century. Table 4-1 provides a timeline of major events and policies in occupational safety and health, including state and federal laws and programs and private standards.

Table 4-1. Policies and events in U.S. occupational safety and health, 1877-1977

Year	Policy / Event
1877	Massachusetts passes the first occupational safety law requiring machine guards, fire exits, and authorized factory inspections. (1)
1893	Railway Safety Act of 1893 (10)
1907	Worse mine disaster in U.S. history in Monongah, WV kills 362 coal miners. (1)
1907	U.S. Dept of the Interior created the Bureau of Mines and gave it authority to inspect and report on health and safety in mines (8)
1908	Federal Employers Liability Act provides workers' compensation for railroad workers. (4)
1908	U.S. Steel begins first corporate safety program (4)
1910	The U.S. Bureau of Mines is created in response to Monongah, WV tragedy and more frequent mine disasters, in general. The Bureau did not have the authority to set regulations, only to conduct research on new ways to improve mine safety. (1)
1910	State of New York enacts first workers' compensation law; which is later declared unconstitutional. (7)
1911	A fire in the Triangle Shirtwaist Company in New York City claims the lives of 145 workers. Inspections revealed that exits and fire escapes were locked and/or blocked. (4)

Table 4-1. (continued)

1911	First state laws on worker compensation enacted by Wisconsin and nine other states. (6)(7)
1913	U.S. Department of Labor, formerly the Bureau of Labor within Department of Interior, is formed as a cabinet agency. (1)
1913	The National Council of Industrial Safety (NCIS) is established; its name changed to the National Safety Council (NSC) in 1915 (9)
1914	The U.S. Public Health Service established the Office of Industrial Hygiene and Sanitation, precursor of National Institute for Occupational Safety and Health (NIOSH) within Centers for Disease Control (CDC) (6)
1915	The American Society of Mechanical Engineers (ASME) published first edition of the boiler code, <i>Rules for the Construction of Stationary Boilers and for the Allowable Working Pressures</i> , which is now the ASME International Boiler and Pressure Vessel Code. (13)
1918	The American Engineering Standards Committee (AESC), now the American National Standards Institute (ANSI), is founded with cooperation from the American Institute of Electrical Engineers (now IEEE), the American Society of Mechanical Engineers (ASME), the American Society of Civil Engineers (ASCE), the American Institute of Mining and Metallurgical Engineers (AIME), and the American Society for Testing Materials (now ASTM International). (9)
1922	In four years, the AESC established 28 industrial standards; including six occupational safety and health standards. (12)
1936	Walsh-Healy Public Contracts Act sets the first federal health and safety standards that applied to work done by federal contractors on work that exceeded \$10,000. (1)
1938	Fair Labor Standards Act sets minimum wage and sets minimum age of 18 for working on some hazardous occupations. (1)
1944	ANSI A10 committee, one of the largest non-government standards committees under ANSI, publishes its first standard. The A10 committee has 74 members and currently has 49 active standards on safety in construction and demolition. (2)
1946	The American Conference of Governmental Industrial Hygienists (ACGIH) publishes a list of recommended exposure limits for 140 substances. (3)
1948	Mississippi is the last state to pass a workers' compensation law. (7)
1970	Occupational Safety and Health Act establishes Occupational Safety and Health Administration (OSHA) within Department of Labor (1)
1971	OSHA adopts standards from ANSI, NFPA, etc. without notice and comment under Section 6(a) of the OSH Act. (11)
1977	Federal Mine Safety and Health Act of 1977 establishes the Mine Safety and Health Administration (MSHA) within the Department of Labor (5)

Table References: (1) MacLaury (1981); (2) King (2006); (3) Lemen et al. (1989); (4) Aldrich (1997); (5); U.S. Department of Labor (n.d.); (6) Abrams (2001); (7) Fishback (2008); (8) Goetsch (2008); (9) "ANSI: Historical Overview," (n.d.); (10) Hammer & Price (2001); (11) Schepel (2005); (12) "Activity is Greater" (1923); (13) ASME, 2013

The timeline shows that there were many significant changes to the legal framework of occupational health and safety during the Progressive Era. State workers'

compensation laws accompanied by state OSH standards, were followed closely by the first private standards created under the American Engineering Standards Committee (AESC), now the American National Standards Institute (ANSI). Private occupational safety and health standards predate federal standards (set by OSHA and MSHA) by more than 50 years in the United States. The ANSI A10 committee, the ANSI Accredited Committee on Safety in Construction and Demolition Operations, published its first standard in 1944 and now oversees the creation of 49 standards in total. The American Society of Mechanical Engineers (ASME) published the first edition of the boiler standard in 1915 in response to an increase in the number of boiler explosions as users pushed smaller boilers beyond their capacity. The ASME also sponsored the first national standard for the identification of piping systems, first published in 1935.

4.1.1 Early safety codes

The calculation of insurance premiums based on accident rates and a desire of industry to promote common standards between state governments and insurance companies created a strong incentive for the development of private standards in the early 1920s. States had also begun to develop safety standards in response to criticism that they lacked standards to guide factory inspections despite the enactment of many state factory inspection laws in the early 20th century. (MacLaury, n.d.) But prior to state or federal laws which provided for the development and enforcement of occupational safety and health standards, insurance companies played a large role in the development of such standards (Beyer, 1920). Insurance companies, faced with the need to calculate

premiums for workers' compensation insurance began to develop and publish detailed industrial standards with the help of safety engineers.

Carl M. Hansen, a safety engineer, authored *Universal Safety Standards* in 1913 for the Workmens' Compensation Service Bureau. This bureau, a national association of twenty casualty insurance companies, was formed for the purpose of compiling accident statistics and calculating insurance rates (State of New York, 1918). The *Handbook of Industrial Safety Standards* was published by the American Mutual Liberty Insurance Co. in 1922 and specified safe design related to numerous factory hazards floor openings, elevators, traveling cranes, boilers, power transmission, and ventilation among other things in great detail. At that time, insurance companies would, in a sense, enforce compliance with their standards through inspections which determined premium rates.

The earliest private standards for occupational safety and health were developed by the AESC and were often referred to as "safety codes." By 1922, only four years after its establishment, the AESC committee had developed and approved 28 industrial standards ("Activity is Greater", 1923). Six of these 28 were "safety codes" that applied to occupational safety:

- Safety code for the use, care and protection of abrasive wheels
- Safety code for the protection of industrial workers in foundries
- Safety code for power presses, foot and hand presses
- National electric safety code
- Safety code for the protection of heads and eyes of industrial workers
- Specifications for the testing and use of permissible explosives

By 1926, the committee had issued 14 safety codes and 30 more were under development. Paul G. Agnew, secretary of the AESC at the time it was founded,

announcing the progress of the committee stated that the work of state workers' compensation commissions "brought about the need for, and have led to the development of national industrial safety codes" and noted that the 14 issued codes were "now in use by industry and by state regulatory bodies." (Agnew, 1926, p. 51)

The drive to create safety codes was apparently related largely to the need to create uniformity between the standards of insurance inspector and state inspectors. Thomas B. Hitchcock of the American Mutual Liability Insurance Company described the lack of uniformity and the urgency to preempt inconsistent standards in a presentation at the Tenth Annual Safety Conference held by the National Safety Council as the reason for the development of a textile safety code:

"...there are frequently instances of different interpretations [of state regulations] made by successive inspectors, so that changes made at the behest of one are condemned by the next man who comes along. You find confusing or impracticable suggestions in various booklets which treat of textile hazards; recommendations made by insurance inspectors have been known to be of somewhat similar character. ...The realization that the textile industries may someday be confronted with conflicting formal codes is responsible for the present effort to get united and harmonious action. The state of Pennsylvania actually has a textile code in preparation and other states will eventually do likewise unless the work is done for them by some representative body of men and in an acceptable manner." (Hitchcock, 1921, p. 816)

In these early years, the National Safety Council (NSC) served as the "sponsor" for some of the occupational safety standards created under the auspices of the AESC, as did other trade associations and insurance associations. There was an understanding among these organizations that a fair process was necessary in order for the standards to be adopted by states. The chief engineer of the NSC at the time stated that standards should be created "on an absolutely representative and democratic basis" so that "the various States, insurance authorities and others, having to do with the enforcement of regulations

on the subject, will naturally be inclined to use that standard as a model.” (“Safety Code for Punch Presses”, 1922)

4.1.2 Federal agencies

The Occupational Safety and Health Act of 1970 established the Occupational Safety and Health Administration (OSHA) in the Department of Labor. Regarding the creation of standards, Section 6(a) of the Act instructed OSHA to, within two years of the effective date of the statute, use rulemaking to promulgate any “national consensus standard, and any established Federal standards” that the Secretary deemed would result in improved health and safety as an occupational safety and health standard. Standards established under the Walsh-Healey Act of 1936, the Service Contract Act of 1965, and others would be superseded by standards set by OSHA. Section 6(b) of the Act instructed OSHA to promulgate other health and safety standards as necessary and, in the event that an OSHA rule differs from an existing national consensus standard,¹² to “publish... a statement of the reasons why the rule adopted will better effectuate the purposes of this chapter than the national consensus standard.”

The first regulations put in place by OSHA incorporated by reference a number of existing private standards. The Occupational Safety and Health Act of 1970 allowed OSHA to adopt voluntary consensus standards directly into regulation without notice and

¹² Public Law 91-596 defines a *national consensus standard* as “any occupational safety and health standard or modification thereof which (1) has been adopted and promulgated by a nationally recognized standards-producing organization under procedures whereby it can be determined by the Secretary that persons interested and affected by the scope or provisions of the standard have reached substantial agreement on its adoption, (2) was formulated in a manner which afforded an opportunity for diverse views to be considered and (3) has been designated as such a standard by the Secretary, after consultation with other appropriate Federal agencies.”

comment. Directly converting these *voluntary* standards into *mandatory* regulations, however, revealed some of their weaknesses as mandatory requirements. In some cases, the standards did not make sense, and some of them were severely outdated. Both of these weaknesses suggest that at least some of the standards were not being widely used on a voluntarily basis, otherwise they might have better reflected current conditions (Schepel, 2005).

The Act places stricter requirements for rationalization on OSHA than would be required under the APA. Section 6(a) directs OSHA to create safety and health standards that are “reasonably necessary or appropriate.” The term “reasonably necessary” means that a significant occupational safety or health risk exists, and “appropriate” in this context has been interpreted to mean that “risks...can be eliminated or lessened by a change in practices.” (Industrial Union Department, AFL-CIO v American Petroleum Institute et al 448 US 607 (1980)) Furthermore, OSHA standards are subject to more scrutiny than other federal rules under the APA. The Occupational Safety and Health Act states that “any person adversely affected” by [a health or safety standard issued by OSHA] may seek judicial review and instructs judges to look at “substantial evidence in the record taken as a whole.” This standard of review has been interpreted as meaning that review of OSHA standards may be more strict than the ‘arbitrary and capricious’ standard of the APA. (Schepel, 2005, p. 94)

4.2 Government Occupational Safety and Health Standards

4.2.1 The primary federal agencies

The Occupational Safety and Health Administration (OSHA) and the Mine Safety and Health Administration (MSHA) (acronym pronounced em-sha) are the two primary federal agencies that create occupational safety and health standards in the United States. The Occupational Safety and Health Administration creates worker safety standards in many areas including, but not limited to: the construction industry, the maritime industry, and agriculture. OSHA standards pertain to slip and fall protection, prevention of trenching cave-ins, exposure to harmful chemicals, machine safety, personal protective equipment (e.g., respirators), training to promote worker safety and injury and illness reporting requirements. MSHA standards pertain to occupational health and safety in metal and nonmetal mining operations. MSHA standards include noise exposure, dust control, ventilation, electrical safety, mechanical equipment safety, escape routes, training, roof support, and sanitation among other things. Occupational safety and health standards promulgated by OSHA are codified at 29 CFR Part 1910. Standards promulgated by MSHA are codified at 30 CFR Parts 1 through 199.

4.2.2 The rulemaking process at OSHA and MSHA

The process of notice and comment varies some across government agencies and also by the type of rule (some types of rules can become final without taking comment), but notice and comment rulemakings generally include at least the following stages:

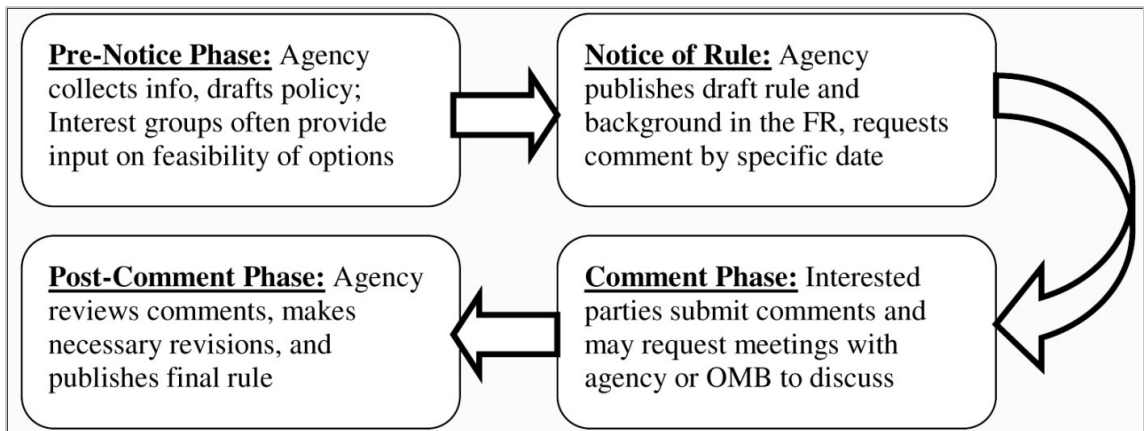


Figure 4-1. Stages in the federal rulemaking process

The official rulemaking process at OSHA typically starts with a request for information (RFI) and/or an advanced notice of proposed rulemaking (ANPRM) followed by stakeholder meetings, a notice of proposed rulemaking (NPRM), hearings, and then a final rule. Notices of each phase are published in the federal register. This entire process typically spans several years, and may take up to 20 years in some cases. Formal comment is not the only way for groups to participate in OSHA and MSHA rulemaking. Before the notice of a proposed rule, there is communication between the agency and stakeholders that entails exchanging information and generation of policy options. William West (2009), in a study of the pre-comment phase of rulemaking, found that a large portion of participation occurs before the official NPRM and that this participation tends to be unstructured and dependent on the particular rule. While some of the early participation could be classified as unstructured, some is, in fact, very structured and even required as part of the rulemaking process. For example, agencies are required to conduct a formal investigation into the impacts on small businesses, a requirement of the

Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA). The investigations, called “SBREFA panels,” consist of a three-member panel that seeks comment from small businesses on the impacts of a rule prior to its formal proposal and submits a report and recommendations to the agency.

Before anything is published in the federal register, the earliest stage of a standard created by the occupational safety and health administration could be a meeting of one of the five advisory committees that OSHA uses to provide direction for regulatory activities and to stay up-to-date with current issues. For example, the Advisory Committee on Construction Safety and Health (ACCSH) is a 15-member committee that includes representatives of labor, employers, state OSH departments, and a representative from the National Institute of Occupational Safety and Health (NIOSH). The committee meets twice per year where members of the committee or the general public may present information or provide recommendations to OSHA.

If OSHA determines that it needs to address an issue through the creation of a standard (or other policy tool), it may send specific questions regarding the issue to individual presenters or members of the committee. Once the agency gathers enough information to frame relevant questions about the issue, it will often issue a formal request for information (RFI). The RFI, which is published in the federal register, can comprise several pages of detailed questions about an issue. Figure 4-2 shows an example of an RFI that was issued in August 2002 pertaining to the health effects of hexavalent chromium in the workplace. The proposed rule for occupational exposure to

hexavalent chromium was published October 4, 2004 and the final standard was issued February 28, 2006.

In addition to the steps outlined in Figure 4-1, OSHA and MSHA are required by their authorizing statutes to provide additional opportunity for stakeholders to submit information through a public hearing if any interested party requests it. (29 USC 655(b)(3) or 30 CFR 811(a)(3)). Hearings are requested for virtually all major standards. Stakeholders who wish to speak at a hearing submit their intent in writing with their comment on the proposed rule. The hearings typically take several days and are sometimes held in multiple cities throughout the United States to allow all interested parties the opportunity for input. The hearings are transcribed and the transcriptions become part of the rulemaking record making the agency accountable for considering all of the information presented in the hearing as it would in written comments.

OSHA Docket Office at (202)-693-2350 for information about security procedures concerning the delivery of materials by express delivery, hand delivery and messenger service.

All comments and submissions will be available for inspection and copying at the OSHA Docket Office at the above address. Comment and submissions posted on OSHA's Web site are available at <http://www.osha.gov>. OSHA cautions you about submitting personal information such as social security numbers and birth dates. Contact the OSHA Docket Office at (202)-693-2350 for information about materials not available through the OSHA Webpage and for assistance in using the Webpage to locate docket submissions.

II. Background

Properties and Uses. Chromium exists in several oxidation states. Its most important natural source is as the mineral chromite ($\text{FeO} \cdot \text{Cr}_2\text{O}_3$). Common forms of chromium compounds are trivalent chromium (Cr(III)), and hexavalent chromium (Cr(VI)). Cr(VI) can be produced when Cr(III) is heated in the presence of mineral bases and oxygen. Such a change (from Cr(III) to Cr(VI)) also occurs as a by-product of welding or cutting operations on stainless steel. In addition, a portion of Cr(III) used in refractory bricks can convert to Cr(VI) during normal furnace operations.

Cr(VI) compounds are characterized by high melting points, very high boiling points, varying solubilities, a wide array of colors, corrosion resistance and resistance to acid. These properties make chromium ideal for use in such widely diversified products as corrosion-resistant materials, pigments, coatings, metal plating, and chemicals.

Health risks associated with occupational exposure to Cr(VI) . Epidemiologic studies of workers exposed to Cr(VI) have consistently shown a positive correlation between exposure to Cr(VI) and excess lung cancer. See, e.g., Machle and Gregorius (1948, Ex. 7-2); U.S. Public Health Service/Gafafer (1953, Ex. 7-3); Baetjer (1950, Ex. 7-6); Hayes *et al* (1979, Ex. 7-15); Braver (1985, Ex. 7-17); Mancuso (1975, Ex. 18-3; 1997 Exs. 23, 24); and Gibb *et al* (2000, Ex. 25). The International Agency for Research on Cancer (IARC) (Ex. 18-1) and the U.S. Environmental Protection Agency (EPA) (Ex. 19-1) have classified Cr(VI) as a human carcinogen based on excess lung cancers found in workers involved in chromate production, chromate pigment production, and chromium plating. The American Conference for Governmental Hygienists (ACGIH) classifies water-insoluble and water-soluble Cr(VI)

compounds, zinc chromate, and strontium chromate as class A1 (confirmed human) carcinogens. (2002, ACGIH, TLVs® and BEIs®, Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices).

Occupational exposure to Cr(VI) has also been associated with non-cancer health effects of the skin, such as dermatoses and chrome holes; and problems of the respiratory system including nasal septum irritation and perforation.

Occupational health regulation of Cr(VI) exposure. In 1971, OSHA adopted and made applicable to general industry a national consensus standard (ANSI Z37.7-1971) for chromic acid and chromates (compounds that contain chromium in its hexavalent state). 29 U.S.C. 655(a). The general industry standard sets a permissible exposure limit ("PEL") for hexavalent chromium compounds at 100 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) as a ceiling concentration measured as chromic acid (CrO_3), 29 CFR 1910.1000, Table Z-1 and Z-2. In 1971, OSHA also adopted, as its hexavalent chromium standard for construction work, an established federal standard that had been promulgated under the Construction Safety Act, 40 U.S.C. 333. That standard sets a PEL of 100 $\mu\text{g}/\text{m}^3$ (measured as CrO_3) as an 8-hour time-weighted average (8-hour TWA) for chromic acid and chromates, 29 CFR.1926.55.

In 1993, the Oil, Chemical and Atomic Workers Union (OCAW) and Public Citizen Health Research Group petitioned OSHA to issue an Emergency Temporary Standard (ETS) to immediately lower the PEL in all workplaces to 0.5 $\mu\text{g}/\text{m}^3$, measured as an 8-hour TWA. OSHA denied the petition because it failed to satisfy the stringent criteria for an ETS. However, OSHA opened a rulemaking docket and began to collect information that would be relevant to a Cr(VI) rule.

The information available to date indicates that occupational exposures to Cr(VI) presents a number of complex and difficult issues (e.g., data gaps on current usage of and exposure to Cr(VI) , differences in opinion on the interpretation of health effects data). In this notice, OSHA is seeking information to help the agency resolve some of these issues. OSHA believes that affording interested members of the public the opportunity to be heard on these issues would benefit the agency's decisional process.

III. Request for Data, Comments, and Information

OSHA requests data, comments, and information on a variety of topics relevant to the agency's review of occupational exposure to Cr(VI) . The topics include: Adverse health effects associated with occupational exposure to Cr(VI) ; methods, costs, and effectiveness of control strategies that can reduce exposure to Cr(VI) ; and medical management of exposed employees.

The questions below highlight the areas of concern to OSHA. When answering specific numbered questions below, please key your responses to the number of the question, explain the reasons supporting your views, and identify and provide relevant information on which you rely, including, but not limited to, data, studies and articles. The public is also welcome to comment on other issues raised by this notice.

A. Health Effects

As discussed above, OSHA is aware of a number of studies reporting an association between adverse health effects and exposure to Cr(VI) . In this notice, OSHA is seeking information associated with, and analysis of, the most recent and important studies that the agency can use to evaluate health effects.

(1) What studies (including positive and negative studies) should OSHA consider useful in assessing the potential carcinogenic, mutagenic, and non-carcinogenic health risks of Cr(VI) exposure? Explain your scientific rationale for recommending these studies including potential strengths and weaknesses such as size of the population (or sample) studied, characterization of exposure, and confounding factors.

(2) Are there any recent studies that examine the dermal effects of Cr(VI) exposure?

(3) Are there any studies showing adverse health effects resulting from routes of occupational Cr(VI) exposure other than dermal contact and inhalation? What are those adverse health effects?

(4) Are there any important studies related to the dose response behavior of Cr(VI) , including cellular, mechanistic, and dosimetric considerations? For instance, are any health effects of Cr(VI) dependent on the time period over which exposure occurs rather than dependent on the total cumulative dose received or are there data that suggest Cr(VI) exhibits a threshold effect?

(5) Do short-term peak exposures play a role in causing adverse Cr(VI) health

Figure 4-2. Excerpted page from a Federal Register Request for Information
Source: Federal Register, Volume 67, No. 163, August 22, 2002, p. 54390

4.3 Private Occupational Safety and Health Standards

4.3.1 The purpose and use of private occupational safety and health standards

Even in the modern regulated environment, there is considerable uncertainty about which party is responsible for the safety of workers. (Toole, 2002) This is especially true on construction sites. Responsibility for worker safety could rest with the general contractor, a subcontractor, engineers, tool and equipment manufacturers, safety and health professionals (SHPs), or even architects. The growth of temporary staffing companies has further complicated this assignment of responsibility. Federal and state regulatory standards for occupational safety and health often do little to clarify responsibility. Private standards can help to assign responsibility by providing more detail than federal or state regulations on safe construction practices, adequate safety equipment, safety mechanisms on tools, and/or proper training. The examples in the introduction show how the standards can be used in litigation to determine which party is culpable for worker injury. Regarding the importance of private standards in establishing a “standard of care,” C. Gary Lopez writes that private standards represent the “agreed upon [standard] by peers in your field... that defines [what] would constitute acceptable risk regarding a particular issue.” (Lopez, n.d.) As former president of the Building Owners and Managers Association International (BOMA) stated, “...we recognize that any changes [to private standards] would directly and materially affect commercial buildings for years to come and open up the possibility of litigation brought by tenants against building owners.” (Garland, 1997)

The importance of private standards for assigning legal responsibility is further evidenced by the fact that injury attorneys frequently advertise expertise in ANSI standards on their websites. Myriad legal blogs explain that workers may be able to bring negligence suits against their employer or a general contractor if they have violated OSHA *or* ANSI standards. Scott Charnas, an injury attorney with extensive experience litigating occupational injury cases involving nail guns, discusses strategies for combating the typical manufacturers' defense that "our nailers meet all industry standards" (1996), and Errol Meidlinger (2009) explains that the development of private safety standards have historically been driven by both the goal of manufacturers to show reasonable care in liability cases.

In addition to helping to determine who is responsible for worker safety, the connection between insurance premiums and compliance with private standards highlights their historic purpose of reducing risk in underwriting. The origins of many large non-government SDOs, such as Underwriters' Laboratories (UL) and the American Society of Mechanical Engineers (ASME), can be traced back to the efforts of the insurance industry. Even today, the cost of liability insurance, including workers compensation, can be higher for employers that fail to meet applicable standards, government or non-government (Hammer & Price, 2001, p. 76).

In addition to assigning legal responsibility and creating a basis for setting insurance premiums, private occupational safety and health standards can also be used to show that a hazard is recognized by an industry. As described in the introduction, OSHA

frequently bases general duty citations on assumed knowledge of standards. Some states also enforce their general duty clause on this basis.¹³

4.3.2 The universe of non-government SDOs in occupational safety and health

The universe of entities that creates private occupational safety and health standards was defined by gathering names of standards developing organizations from two main sources: 1) the Department of Labor reports to the National Institute of Standards and Technology (NIST) and 2) the list of Standards Incorporated by Reference (SIBR) into the Code of Federal Regulations (CFR). In addition, names of standards developers or ANSI committees mentioned in interviews but not mentioned in the NIST reports or the SIBR list were added as were names of committees or standards developers mentioned in OSHA or MSHA publications.

Table 4-2 lists non-government SDOs who develop private occupational safety and health standards or are secretariats for ANSI-accredited standards committees that develop them. A secretariat or a sponsor, often a trade association or professional society, financially supports the development and publishing of a standard or suite of standards and assumes the responsibility of responding to requests for interpretation of the standard once it is published. The table indicates ANSI-accredited status and whether the organization has standards adopted into federal standards created by OSHA or MSHA.

¹³ For example, see North Carolina Department of Labor Occupational Safety and Health Division Bureau of Compliance, Field Operations Manual, Chapter IC – Violations (2000)

Table 4-2. Non-government SDOs sponsoring one or more standards in the field of occupational safety and health

Name of Organization ¹	ANSI-accredited standards developer ²	Standards adopted by OSHA or MSHA ³
Acoustical Society of America (ASA)	•	•
American Conf. of Govt Industrial Hygienists (ACGIH)		•
Automotive Lift Institute (ALI)	•	
American Petroleum Institute (API)	•	•
American Soc. of Agric. and Biological Engineers (ASABE)	•	
American Soc. of Heating, Refrig. & Air-Cond. Eng. (ASHRAE)	•	
American Society of Mechanical Engineers (ASME)	•	•
American Society of Safety Engineers (ASSE)	•	•
American Welding Society (AWS)	•	•
American Wind Energy Association (AWEA)	•	
ASTM International	•	•
B11 Standards, Inc. (BSI)	•	
Compressed Gas Association (CGA)	•	•
Conveyor Equipment Manufacturers Assoc. (CEMA)	•	
Health Physics Society (HPS)	•	•
Industrial Truck Stds Development Foundation (ITSDF)	•	•
Institute of Electrical and Electronic Engineers (IEEE)	•	•
Institute of Makers of Explosive (IME)		•
International Electrotechnical Commission (IEC)		
International Safety Equipment Association (ISEA)	•	•
International Society of Automation (ISA)		
International Staple, Nail and Tool Assoc. (ISANTA)	•	
International Window Cleaning Association (IWCA)	•	
National Electrical Manufacturers Association (NEMA)	•	•
National Fire Protection Association (NFPA)	•	•
National Floor Safety Institute (NFSI)	•	
Professional Lighting and Sound Association (PLASA)	•	
Robotics Industries Association (RIA)	•	
Scaffold and Access Industry Association (SAIA)	•	•

Table 4-2. (continued)

Society of Automotive Engineers (SAE)	•	•
Underwriters Laboratories (UL)	•	•
Unified Abrasives Manufacturers Association (UAMA)	•	•
Wood Machinery Manufacturers of America (WMMA)	•	•
Natl Board of Boiler and Pressure Vessel Inspectors (NBBPVI)	•	•

1. Names in this list were gathered from the list of organizations that Dept. of Labor participates in submitted to the National Institute of Standards and Technology (NIST) and from the list of standards incorporated by reference (SIBR) by OSHA and MSHA (<https://standards.gov>)

2. Based on list of ANSI-Accredited SDOs. Available at publicaa.ansi.org.

3. Refers to standards incorporated by reference into 29 CFR or 30 CFR. Some of the standards incorporated are created by accredited standards committees (ASC) for which the listed organization is the secretariat. Technically, the organization itself is not the standards developer.

4.3.3 The process of standards development under ANSI

The notice and comment requirements of the American National Standards Institute, (*ANSI Essential Requirements*), are similar to those of the Administrative Procedure Act, but there are some differences which were discussed in Chapter 2. In addition to these differences, the steps in the policy development process for a non-government SDO are also different from a government agency. ANSI standards are created primarily in two ways: through a committee of experts and stakeholders or through the canvass method. Standards created through the canvass method undergo notice and comment but do not have as much early participation from outside stakeholders. This research focuses on the use of the committee method since it is the method most commonly used to create occupational safety and health standards under ANSI. When the committee method is used, committees range in number of members, some having as few as 12 members like the ASME A90 committee, and others, like the ANSI A10 committee, with 75 members. In most committees, draft language for standards is developed by a subcommittee, a

group of three or so people who may be those with the most knowledge about the topic. The subcommittee drafts the standard and then presents it to the full committee for feedback. Subcommittees may include people who are not on the main committee, which is a way to include people who may have specialized expertise but do not hold a seat on the main committee.

Once a standard is drafted, it undergoes a review and balloting process by the main committee. Under the *ANSI Essential Requirements*, a standard must also undergo a public review period typically lasting 45 days. The committee review can happen before or concurrent with the public review period. For public review, a notice containing the scope of the standard and a source for obtaining the full text of the document is published at least in the *ANSI Standards Action*. Notice that a standard is available for public review is also often published in industry-specific publications such as trade journals and/or in publications of the standards developer. For example, notices of all standards created by committees sponsored by the American Society of Safety Engineers (ASSE) are published in the ASSE's *Compass* magazine.

During the committee balloting process, each committee member has four voting options – 1) Affirmative (agree with the standard), 2) Affirmative with comment, 3) Negative with comment, and 4) Abstain. Committee members could vote negative without comment, but the standards developer is not required by the *ANSI Essential Requirements* to consider negative votes not accompanied by a written explanation. Nor is the standards developer required to consider comments that do not relate directly to the proposal under consideration. The process for reaching consensus and the criteria for

consensus vary by committee, but the process and criteria must follow the *ANSI Essential Requirements* and must be approved by ANSI before being implemented. Many committees follow the two-thirds rule; two-thirds of those voting must vote yes or yes with comment for consensus to be reached keeping in mind that votes of no without comment and abstentions do not have to be counted.

Comments from committee members during the balloting process and from participants in the public review process must be addressed by the committee. The committee must make “an effort to resolved all expressed objections... related to the proposal,” (ANSI, 2013, p. 8) and responses to comments must be in writing. If the committee cannot resolve the objection by changing the standard, it must inform that participant in writing of his or her right to appeal and submit the unresolved objection to the ANSI Board of Standards Review along with the standard for approval as an American National Standard. A comment is defined as “unresolved” if a commenter (from within or outside the committee) “express[es] disagreement with the proposed standard” and does not indicate that the complaint has been resolved after communication with the standards developer.

Committees are formed according to the *ANSI Essential Requirements* pertaining to balance requirements, which state that “no single interest category [may constitute] more than one-third of the membership of a consensus body dealing with safety-related standards.” (ANSI, 2013, p. 5) For a consensus body that creates standards not related to safety, no single interest category should have a majority. The *ANSI Essential Requirements* give discretion to the committees to create their own categories but suggest

that they should include at least: producers, users, and general interest. As an example, in the case of an elevator safety standard, an elevator manufacturer would a *producer*, a building owner or elevator installer would be a *user*, and an elevator engineer or elevator safety consultant would fall into the *general interest* category. Other examples of participants who would fall into the general interest category include academic participants, government participants, trade associations, professional societies, testing laboratories, insurance companies, and labor unions. The *ANSI Essential Requirements* state that “Appropriate, representative user views shall be actively sought and fully considered in standards activities.” One type of user category is called “User-labor” and the requirements state that “Where [standards] deals with subjects of special interest to the American worker, such as products used in the workplace, an appropriate user participant is a representative of labor.” However, while the *ANSI Essential Requirements* seem to require participation by labor unions, the requirement is not enforced by ANSI. \

4.3.3.1 *Appeals of standards under the ANSI process*

Under the ANSI system, appeals of standards may go through up to three stages. In the first stage, a stakeholder can appeal a standard to the standards developer, the accredited standards committee. Each accredited standards committee must have a written appeals process in place that has been approved by ANSI. Standards developers can choose some of the parameters of their appeals processes, such as number of people on an appeals panel, how the panel is chosen, what marks the end of the appeals process,

and whether the application of technical or scientific evidence to a standard can be appealed. At a minimum, the appeals process must comply with the ANSI Essential Requirements which require that appeals be handled in an impartial manner and that they be handled promptly. An ANSI standards developer is required to attempt to resolve any objection to a proposed standard, whether submitted through a public comment or through a comment issued with their vote. If the commenter's objection cannot be resolved, the party must be notified in writing of the right to appeal.

If an objection is not resolved, a person who is “directly and materially [adversely] affected” by any “action or inaction by ANSI or by any ANS-related process” have the right to appeal to the ANSI Board of Standards Review (BSR). At the BSR level, technical issues, such as whether the available scientific evidence supported the standard, cannot be appealed, only whether they were afforded due process. This marks an important difference from the federal system, where a court might, however inaptly, attempt to determine whether scientific evidence was considered appropriately. The operating procedures of the BSR state that it “will not render decisions on the relative merits of technical matters, but it shall consider whether due process was afforded technical concerns.” (ANSI, 2009a, p. 7) Beyond this, the final stage of appeal is to the ANSI Appeals Board. The ANSI Appeals Board hears appeals of decisions made by the BSR or the ANSI Executive Standards Council (ExSC) and is the final stage of appeal within ANSI. Typically, the BSR hears appeals of standards and the ExSC hears appeals of accreditation decisions. The ANSI Appeals Board is a committee of nine to eighteen

people appointed for three-year terms; they can serve nine years in total. The Appeals Board decides issues through a majority vote. (ANSI, 2009b)

4.4 The Relationship between Public and Private Standards

OSHA's first step in 1971 was to adopt all existing federal regulations and national consensus standards (see FR, May 29, 10466-10714). OSHA was permitted to undertake this one-time adoption under Section 6(a) of the Act without notice and comment typically required under the APA. Many of these standards originally incorporated by reference have not been updated since they were first adopted. Section 6(b)(8) of the Act requires OSHA, when publishing a rule that is substantially different from a national consensus standard, to state why the OSHA standard is more effective than the national consensus standard. One example of such a statement reasons can be found in the final standard on cranes and derricks published in 2010 (FR 75: 48130).

Some of the types of equipment subject to this final standard are addressed by current national consensus standards in the ASME B30 series, [lists eight standards]...For some issues, the ASME standards do not address issues covered by this final rule, or the Committee determined that a different approach was necessary. For example, in the provisions on inspections... the Committee concluded that shift, monthly, and annual inspection intervals are most appropriate, in contrast to the ASME approach, which uses "frequent" and "periodic" intervals. In the provisions addressing assembly/disassembly...the Committee adopted approaches with no comparable counterparts in the ASME standards. In some instances, the Committee determined that it was appropriate to incorporate ASME standards by reference, in whole or in part.

The passage shows that the agency relies on consensus standards to guide its work and that significant time is spent in reviewing and understanding the substance of the standards as part of OSHA standards development. A 2012 GAO report stated that: "...OSHA considers using voluntary consensus standards" when developing a standard, but that OSHA officials feel their ability to adopt standards verbatim is limited because

“standards developing organizations typically do not have to meet scientific requirements in developing voluntary standards.” For this reason, OSHA must still perform a full assessment of any standards that are adopted. (GAO, 2012, p. 32)

In addition to incorporating whole or partial standards by reference, OSHA may also use voluntary standards to base citations for violations of the “general duty” clause (GDC), outlined in Section 5(a)(1) of the Occupational Safety and Health Act. Section 5(a)(1) codified at 29 U.S.C. Section 654 requires “each employer” to “furnish... a place of employment... free from recognized hazards...” In cases where there is no specific OSHA standard(s) to indicate a “recognized hazard,” OSHA enforcement staff may rely on the existence of a VCS to indicate that a hazard is “recognized” and that there is a feasible way to mitigate the hazard. Figures provided in the introduction show that standards are used frequently in this way.

4.5 The Role of Labor Unions in Occupational Safety and Health

Currently, unions perform several tasks that contribute to the improvement of workplace health and safety. First, unions incorporate safety and health clauses into bargaining agreements. A review of 744 collective bargaining agreements set to expire between 1997 and 2007 found that approximately 58 percent contained at least one safety and health clause. Of those, the most common requirement was for local and/or national labor-management safety and health committees. Other provisions included requirements for disclosure of hazardous information, chemical hygiene, and noise abatement. (Gray et al., 1998)

Second, unions exert political pressure on state and federal regulators to improve health and safety through submitting petitions calling for new standards and participating on advisory committees for state and federal OSH policymakers. The standard setting process for several important standards has been initiated by labor union petitions. Third, unions have health and safety departments which provide training for workers and increase awareness of hazards in a particular industry. Finally, labor unions play an important role in enforcement of existing safety and health statutes (Weil, 1991 and 1992), a role which is not matched by employer safety and health committees (Weil, 1999). Robinson (1988) found that the power of unions to improve safety related to their network of “shop-floor stewards, local union officials, and national union health professionals,” which gives them the ability to collect and interpret information about safety and health in the workplace. (p. 454)

More generally, labor unions might have been viewed by Alexis de Tocqueville one of many types of voluntary organizations critical to the function of democratic society. They function as a lobbying organization and can also sway elections. They are unique in their role to voice the concerns of workers in society, in general, and in policymaking, specifically, leading Stone (1995) to conclude that without unions’ participation in national politics, “[workers] would be silenced, and the democratic process would be diminished.” (p. 997)

Regarding their role in informing the content of occupational safety and health standards, William Green, the president of the American Federation of Labor from 1924

to 1952 explained the importance of the role of labor unions in developing non-government safety codes:

The principal methods through which safety work is carried on are safety codes, safe practices and technical advice on desirable working condition standards. For the fully rounded development of these methods, wage earners can make the invaluable contribution of the experience of the workman on the job. This contribution is necessary to assure practicability of recommendations. In serving in this capacity, wage earners should be representatives of the unions, which are the repositories of the work experiences of the craft for many years. (Green, 1926, p. 5)

CHAPTER FIVE: DATA COLLECTION AND ANALYSIS

This chapter describes the data collection and analysis process to show how the research progressed, how the focus of data collection was adjusted based on incoming data, and how the data was analyzed to reach findings. The methods used to collect and analyze data (primarily interview transcripts) for this study basically followed the methods for coding and categorizing data described by Strauss and Corbin (1998) but also drew insights from Maxwell (2005) and others.

The first phase of the research was a pilot study which consisted of a set of structured and semi-structured questionnaires aimed at determining whether small businesses and non-profits had more difficulty participating in private standards than public standards (due to less information in the notice and the cost of the draft standard) and the incentives that policymakers, public and private, faced when collecting and considering comments. This initial, structured phase of data collection revealed that the questions were too narrowly defined and that I (the researcher) lacked the context necessary to interpret the responses. The design was replaced with a more open interviewing style and the use of the grounded theory method to code incoming data. However, the lessons learned from this initial phase of the research were important for the design and direction of the research for a number of reasons which will be discussed in this chapter. Based on lessons learned from the pilot study, the focus was narrowed to a single policy area and a

single *type* of respondent but left the interviews open to explore concepts which were not necessarily related to the original propositions. Finally, a third phase of data collection narrowed the focus of the interviews to concepts which were related to the original propositions but were more *grounded* in the sense that the language of the questions in the final interview protocols was designed to more specific information about the use of the preamble, the effect of the cost of draft standards, and the determinants of participation in public and private standards.

5.1 Pilot Study

Information collected in the pilot study was used to establish the scope of the area of inquiry and to explore the plausibility of the initial propositions from Chapter 3. The pilot study consisted of a survey and interviews with commenters (commenters were defined as people who commented on proposed federal safety standards). Questions were aimed at determining whether small businesses and non-profit organizations faced more obstacles to commenting on private standards due to the cost of the standard and less complete information in the notice. Interviews were also conducted with policymakers (defined as federal rulewriters and staff of standards developing organizations) to determine whether public and private standards developers faced different accountability incentives when reviewing comments. Ultimately, the research design used in the pilot study, which consisted of structured and semi-structured questionnaires, proved too rigid to gain a complete understanding of participation in either sector, and was discarded in favor of more open interviews analyzed through the use of the grounded theory method.

Data collected during the pilot study consisted of 13 semi-structured interviews and 19 responses to a web survey administered through SurveyMonkey (response rate 19%). The interview respondents in the pilot included five policymakers (two standards developers from ANSI standards developers and three federal rulewriters from agencies that created safety standards), one product liability attorney, and seven commenters on federal rules (one labor union attorney, one attorney for a professional society, three small business owners, one safety engineer, and one director of a non-profit labor advocacy organization). Commenters on federal rules were recruited using contact information found on comments posted on Regulations.gov, and contact information for staff of non-government SDOs was found on the organizations' websites. Commenters who responded to the survey and interviews were asked questions about: resources and ability to submit comments on public and private standards, whether public and private notices of standards provided enough information to comment effectively, and whether the cost of draft private standards was an obstacle to participation. Standards developers were asked to discuss why and how they considered comments submitted during the notice and comment period and what they perceived as the consequences for not thoroughly reviewing comments. The early data was difficult to interpret because while the survey data indicated that people found the content in the notice of private standards to be insufficient, the interview data revealed that: 1) people without experience participating in private standards were confused about what they were, and 2) people with experience participating in private standards interpreted the "notice of an ANSI standard" as what was distributed to the committee for a vote. Both these and later interviews

provided evidence that even people who participate in ANSI standards do not use or do not know about the main notice of an ANSI standard in the *ANSI Standards Action*.

5.1.1 Design changes based on the pilot study

The pilot study revealed several problems with the original research design. First, the questions for commenters (survey and interview) focused on relating the revenues of the participant to their ability to participate in the public and private standard-setting based on the ideas that resources affect the ability to participate. However, in practice, it was difficult to determine how small a business or non-profit organization would need to be for this factor to hinder participation.

Second, with respect to due process incentives faced by government and non-government SDOs, it was not clear that the respondents were influenced by or were even aware of the consequences of not following due process requirements. In both sectors, this seemed to be related to the fact that consequences of not complying with due process requirements do not affect policymakers on an individual level. While their actions or inaction might result in their organization being culpable, they would probably not experience individual consequences. Along the same lines, their actions to comply with due process requirements would probably reflect a larger organizational culture of compliance with such requirements. Upon discovering this “disconnect” between the research design and the propositions, it became apparent that it was necessary to focus on how one type of participant became aware of standards development, what obstacles they faced to submitting information, and what other factors determined whether they tried to participate at all.

Third, with respect to businesses, the pilot interviews revealed that there is a lot of variation in the interests of “businesses” involved in standard-setting which could potentially affect the decision to participate. Businesses that participate in standard-setting might be producers, users, manufacturers, installers, distributors, architects, insurance companies, consultants, and so on. Take for example, a design standard for harnesses to be worn by construction workers. Businesses with a stake in the outcome of such a standard could include manufacturers of the harnesses, users of the harnesses (e.g., construction companies or employers), testing laboratories, distributors/retailers of the harnesses, designers of the harness, or safety consultants. Each of these groups would have different concerns about the standard and possibly different levels of technical expertise on the topic. Defining them simply as small businesses or grouping them together with non-profit organizations would fail to account for this potentially important source of variation.

Fourth, there was also variation in which groups business respondents identified with, e.g., with his/her company, with his/her profession, with the standard-setting committee, and so on. It was noted that the most knowledgeable respondents seemed to wear multiple hats in the standard-setting process. In one interview, a person identified herself according to her profession as an engineer, as a representative of the firm where she was employed, and as a member of a standards committee. Each of these would determine how well a person understood a standard that was being proposed, how much background information she would need to understand and comment on a standard, whether she would have access to information about what was happening in the committee, and

whether she would have access to a free copy of the standard. This information suggested that controlling for variation in the type of respondent, in addition to controlling for the policy area, was important to comparing due process between the public and private processes.

Fifth, none of the respondents that were recruited during the pilot study had ever commented on a private standard through the notice and comment process (i.e., the public review period) or participated in any other way. It was originally assumed, or hoped rather, that the same people who comment on federal regulations would also comment on private standards and that data could be collected on participation in both systems from each respondent, but this was not the case. Seven of the 19 survey respondents stated that they had commented on a private standard, but only two left contact information on the survey indicating their willingness to talk more about their experience and neither responded when contacted later for an interview. Of the two respondents that worked for non-government SDOs, only one had ever received a comment from a person that was not on the committee during the notice and comment process. Other information, including recruitment conversations with three SDO staff who would not agree to do a formal interview and findings from Ross Cheit's case studies, suggested that there could be hundreds of comments on private standards, sometimes more than in the public sector, but that there could also be none. However, without lists of commenters on private standards, it would be hard to identify respondents who could provide information about the process of standard-setting under ANSI. The difficulty in identifying potential respondents on the private side was a problem for making a comparison between the

public and the private sectors, but it also underscored an issue that later became one of the most important aspects of the research: that most of the important deliberation and exchange of information occurs informally inside the committee in private standard-setting. Any valid examination of how participants in the private process gain the context necessary to submit relevant information to the policy process would be extremely lacking if it failed to explore the factors affecting committee participation.

In sum, the mixed findings and variation in the pilot data as well as access problems led to two decisions: 1) more flexibility in data collection was needed to be able to exclude or at least better understand the effects of other variables on how participants gained context in the standard-setting process, and 2) a more accessible and homogenous type of participant was needed.

5.2 Open Interviews

The second phase of data collection implemented decisions made as a result of the lessons learned from the pilot study. To implement the first decision, an open interview approach was adopted which used three main question areas: 1) background of the participant (work and education), 2) experience participating in public standards, and 3) experience participating in private standards. Although there were only three main question areas, many questions were asked during the course of conversation. The questions asked and the number of respondents was tracked and recorded during coding. In general, questions focused on the issue of access to policymakers, ability to comprehend why decisions were made in the standard-setting process, determinants of

participation, and reasons for standards developers to solicit outside input. (See Appendix C)

To implement the second decision, the search for respondents was narrowed to focus more specifically on two groups mentioned by Hamilton (1978) as facing obstacles to participation: labor unions and consumer groups. Respondents were initially recruited from both groups with the goal of conducting multiple case studies. Ultimately, the research focused solely on labor unions because occupational safety and health standards (the policy area most relevant to labor unions) created under the ANSI system were more often developed through the committee method rather than the canvass method. This limited the data collected on private standard-setting to one type of participation process.

Names of potential respondents for the open interviews came from federal register comments and through referrals from respondents to the pilot interviews. To gather names from the federal register, the search function on Regulations.gov was used to view only those who had commented on OSHA and MSHA standards, and names and contact information were gathered from those comments. Most interviews took place over the telephone and were recorded and transcribed. For interviews that were not recorded, notes were typed during the interview and filled in as much as possible immediately following the interview. Respondents were allowed to talk about what was important to them, but probes were used to encourage respondents to talk more about how they found out about public and private standards activities, how they submitted information to both systems, what were the obstacles they faced to submitting information to both systems, strategies used to influence standards in both systems, and, based on previously collected

data which suggested that committee participation was important for acquiring context, why they chose to participate on committees and how they got onto committees.

5.3 Respondent Characteristics

A total of 66 interviews were conducted with 53 people for this study. This includes 13 interviews conducted as part of the pilot study and 13 conducted in the final phase of data collection. Most interviews lasted 45 minutes or longer, and some lasted more than two hours. Table 5-1 shows a profile of the 53 respondents by their job position type, educational background, and standards experience.

Table 5-1. Profile of interview respondents

Number of Respondents and Interviews			Respondent Characteristics			
Respondent Type	Number of interviews	Number of respondents	College degree	Experience in public rules or stds	Experience in ≥ 1 private std ³	Experience in ≤ 3 private stds
Labor union, SH, national	23	17	10	19	12	4
Labor union, other, national	4	2	2	2	0	0
Labor union, local	7	4	1	0	4	1
Consumer product safety advocate	6	6	6	6	4	3
Other commenters ¹	13	11	8	10	6	4
Attorneys, not selected as commenters ²	2	2				
Federal agency regulatory staff, OSH and others	5	5				
State agency OSH regulatory staff	2	2				
Non-govt SDO staff	4	4				
TOTAL	66	53				

1. Includes two product design engineers, two small business owners, one non-profit director, one attorney for a professional society, one safety and health director for a construction company, two self-employed safety engineers, and two university professors.

2. Some respondents in the “other commenters” category were also attorneys, but they were recruited to discuss their experience participating in standards development. These two attorneys were selected to discuss how non-government standards are used in injury lawsuits.

3. Although some of the union respondents in this study had never participated in non-government standards, other staff at their union may have. The number in this column should be interpreted as the number of respondents in this study that participate in non-government standards, not as a representation of the number of national unions that participate in non-government standards.

5.4 Data Analysis Using the Grounded Theory Method

The grounded theory method is appropriate when a research area is complex and little is known about what variables exist and how they interact. Because grounded theories are derived from actual data, they can provide a “meaningful guide to action” (Strauss & Corbin, 1998, p. 12), a quality which could make findings from a grounded theory study

a useful tool for policy development. The primary goal of this research was to compare the effectiveness of participation in two policy systems, one public and one private. Findings could indicate what types of policies, if any, would be helpful in improving participation in either sector. Existing literature, described in Chapter 2, can provide some general direction as to what is needed to foster meaningful participation or thorough information collection, but that is where its utility ends. Theories of due process and judicial opinions on what agencies must do to provide it do not account for the details of what stakeholders actually face when they try to participate. These details may be crucial to designing policies that would actually improve the effectiveness of participation. How do stakeholders gain context about a policy to participate? Do they use the NPRM? If so, how? And do they supplement it with other information? What obstacles do they encounter to gathering information about the proposed policy and submitting information to policymakers? The answers to these questions are not necessarily based on an objective reality. Roy Suddaby states that making “knowledge claims about an objective reality” is a less appropriate use of grounded theory than making “knowledge claims about how individuals interpret reality.” (2006, p. 634) The grounded theory method would hence be useful for understanding the perceptions of those who actually participate in policymaking activities, which is crucial to developing policies that could actually improve that experience.

The ultimate goal of grounded theory is to discover and “link” concepts found in the data to form relationships or hypotheses. No preconceived hypotheses direct the data collection. Instead, hypotheses are developed through repeated and alternating inductive

and deductive data collection. Data is continuously collected and analyzed with the purpose of building the categories found in the data. But this does not mean that the ideas or theories developed from grounded theory are completely “untested”. As Kathy Charmaz reminds her readers, “...grounded theorists affirm, check, and refine their developing ideas...” (1990, p. 1162) It only means that an initial theory and/or set of hypotheses do not guide data collection.

The fact that a grounded theory is not based on questions and hypotheses derived directly from theory does not, however, mean that a researcher should lack knowledge of prior research. Even the originators of the grounded theory method, Barney Glaser and Anselm Strauss, acknowledge that starting with existing theories can stimulate good ideas and useful paths of inquiry; they state that existing theory can provide “initial direction in developing relevant categories and properties and in choosing possible modes of integration.” (Glaser & Strauss, 1967, p. 79) What is most important is that a researcher does not simply test hypotheses in their research and is open to new observations and new ideas, specifically those that seem most important based on incoming data. The present study was guided by previous research and past policy proposals, but after some interview data on participation was collected, it was ultimately decided that the original propositions, while not refuted or irrelevant, needed to be adjusted and refined.

5.4.1 Coding and categorizing data

The process of grounded theory is iterative. Data is analyzed as it is collected, and incoming data shapes the direction of the research. Conceptualizing, the act of “naming or labeling phenomena,” is the first step in generating hypotheses in a grounded theory

study. A “concept” is a word or phrase that labels a piece of data. Assigning a “concept” to a piece of data, pieces of interview transcript in this case, “fix[es] continuing attention on them” and allows the researcher to ask questions about the concept. (Strauss & Corbin, 1998, p. 102) Concepts are used to group “similar events, happenings, and objects under a common heading or classification.” (p. 103) *Open coding* is the process of analyzing data in search of concepts. Because the goal of this research was to compare the effectiveness of participation in public and private standard-setting, open coding of the data began with certain concepts in mind (e.g., content of the notice, how information is submitted, etc.) but was open to other concepts related to the effectiveness of participation in each sector.

Concepts can be formed based on line-by-line coding, coding of entire sentences or paragraphs, or coding of an entire document, interview, or other form of data. Analysis of the data in this study started with in-depth, line-by-line coding of the interview transcripts. Most of the interviews were not coded in this way, especially once I understood the system of standard-setting more fully. Line-by-line coding is time consuming, but it was a useful exercise in the beginning to help ensure that the codes reflected what respondents were actually saying. And when descriptions of the participation process were very detailed, even in later interviews, line-by-line coding was used to help decide how a certain passage of an interview transcript should be broken down and categorized.

As coding progressed, codes were revised and grouped to develop *subcategories*. Each code was tagged as belonging to a major category. A code is a concept and a

category is a concept that stands for a phenomena. Ultimately, 145 codes were assigned to just over 1,000 segments of text, which were sorted into seven categories and 30 subcategories. A list of all major codes, subcategories, and categories from the open data collection can be found in Appendix C. The development of a list of codes gives the analyst fewer concepts to work with and makes future coding easier because rather than developing a new concept to label a piece of text, there is already a list to choose from.

Axial coding is the next step in conceptualizing data in a grounded theory study; this step refers to the process of relating categories to their subcategories. At this stage, most of the categories developed during coding are grouped to form several main categories. During axial coding, the analyst is trying to explain the process of how and why observed actions and interactions occurred. To do this, Strauss and Corbin suggest coding pieces of data using a scheme that labels conditions, actions/interactions, and consequences. Using this approach allows the analyst to identify *variables* in the data. In practice, not all pieces of data have all three types of codes; some pieces of data carried a label for all three categories, some carried a label pertaining only to an action.

The passage of interview text displayed in Figure 5-1 is from an interview with a labor union safety and health professional (SHP) who participates in both government non-government occupational safety and health standards. The respondent is discussing (based on my question), the reasons why labor unions would *want* to participate in private standards.

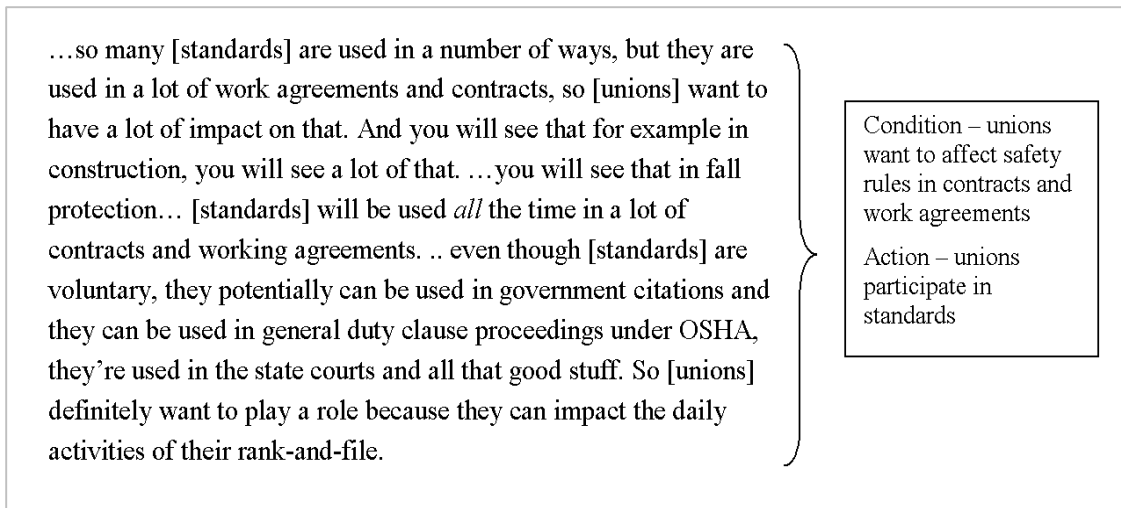


Figure 5-1. Sample coded text excerpt from interview transcript

This text provides insight on why unions would want to participate in standards. The code assigned to this piece of data is “knowledge of standards used in work contracts” and the subcategory is “perceived effect of standards.” The main category is “determinants of participation.” What is gleaned from this piece of data is that, because unions know that standards affect contracts and work agreements (a condition), unions choose to participate in voluntary standards (an action). The codes and the wording of the condition and action assigned to the text are somewhat subjective. Instead of “unions want to affect safety rules in contracts and work agreements,” the condition could have been labeled as “belief that standards are important to safety” or “awareness of how standards affect safety.” Furthermore, it is important to note that the text also provides information on why standards are important and how they are used. This piece of data could also fit into a category called “the purpose of standards.” In some cases, due to the length of the coded passages, data fit into more than one category. In these cases, data

was labeled to fit into multiple categories so that it would be considered in the analysis and interpretation of data in each category.

In addition to how this piece of data is coded, it is important to understand what this piece of data means to this research in general. Alone, this piece of data represents an unverified concept. For this concept to shape the findings, it would have to *earn* its way in. At first, a piece of data would be evaluated based on the respondent's level of experience and whether the respondent would be likely to *know* this based on his or her background. These factors alone might determine whether a concept was ever brought up again in subsequent interviews. In this case, the respondent had long-term experience working for a non-government SDO that deals frequently with labor unions. In the closing part of the interview, the respondent provided referrals for labor union safety and health representatives along with contact information (a possible indicator of close relationships with these people). The respondent did not seem confused at any point in the interview, and the responses were detailed yet concise. These characteristics of the respondent made the concept of perceived effect of standards worth exploring in later interviews.

5.4.2 Storing data and codes

Interview data in text form (transcripts or notes) was coded and entered into a Microsoft Access database for sorting and later retrieval. Other options for storing coded documents are hand coding hard copies of transcripts and use of software packages for qualitative data analysis such as Nvivo. After the open interviews had been coded, the database had approximately 1,100 coded text passages of text from more than 600 pages

of interview transcripts and notes. All collected data was coded and entered into the database. Even if the piece of data seemed irrelevant at the time, no data was left uncoded to ensure that potentially negative evidence was not left out of the analysis. If it was difficult to find a code that fit the data, it was entered under the code that fit best and flagged for later review.

Table 5-2 shows an excerpt from the database that contained the codes, the text passage, the source of the data (e.g., labor union, SDO, etc.), the date of the interview, possible follow-up questions, and any relevant code memos. As data was organized into categories and subcategories, those labels were added to the entries.

Table 5-2. Sample excerpt from database used for data storage and sorting

date or file name	data type	page #	data source	Category	Subcategory	Code	text excerpt	Code memo	follow-up questions	ANSI experience	federal experience
120831	Interview transcript	3	labor union	Reasons Unions Participate	Perceived effect of standard	Expectation of voluntary adoption	..but the OSHA process of developing and implementing and or revising standards takes a whole lot longer time and a has many more steps in their process than it does for us to do our work. ... so we have an opportunity many times to revise ANSI standards multiple times before OSHA regulations ever have a chance to really catch up. So we always have to make sure that we're looking out for the best of the worker, the best of the industry, the best interest of everybody to make these things viable standards that we expect people to voluntarily adopt and the use in their workplaces because 9 times out of 10 they go above what might be required by OSHA.	Suggests knowledge that they are voluntarily adopted		10+ stds	10+ stds
121120	Interview transcript	6	labor union	Value of Union Participation	Communication with workers	Understanding of employee perspective	We might ask, 'How do you really get meaningful input from workers at the table? Do you do it on workers paid time? Or do you do this on their breaks when they are not getting paid?' Well, for the worker, that is kind of onerous to do it on their own time, so it makes sense to pay workers for time they spend on the committees. Do you do it in only English? What if you have Spanish, French, etc. in the plants? So as an employer, you have to think about how you're going to translate or have your management represent the workforce so that you can communicate.		Are employers reluctant to adopt costly provisions in the std that are hard to verify?	1 std	5+ stds

5.4.3 Memoing

The creation of memos is the hallmark of a grounded theory study. Memos are “written records of analysis,” which take many forms depending on their purpose. Code notes are memos written to describe thoughts about a particular code or category, perhaps what a piece of text reveals about the properties or dimensions of that code. Theoretical notes are memos about the relationship between categories. For example, how is the purpose of public and private standards related to their notice and comment process? Operational notes are memos that record the analyst’s thoughts on which questions to ask next or which categories require more in-depth examination. Memos should be sorted by

date and topic to make them retrievable. This way, the researcher can access them when writing up sections of text. Code notes were kept in the Access database which made them retrievable by interview, by interview type, and by the date they were written. Most theoretical memos, at least initially, were dated and kept in a word document; some were also kept in a hand-written journal. Operational notes were kept in the Access database, in a word document, and also in the hand-written journal.

5.4.4 Selective coding

In the final stage of coding, the researcher attempts to integrate all of the categories under a single concept, a process called *selective coding*. At this stage, the researcher works to fill gaps in the data and to find explanations for cases or pieces of data that do not fit well with the emerging categories. In this research, knowledge gained from selective coding of the open interviews was used to develop a final set of questions to further explore and refine some of the important concepts.

5.5 The Primary Categories

Strauss and Corbin direct researchers to organize their data around one central category. The seven main categories created from the data were all related to one primary category: information. Related to the purpose of due process requirements from Chapter 2, the seven categories and the codes they contained related to whether information from labor unions was, in fact, important to create quality standards (value of union info), whether and how stakeholders knew that it was time to submit information (notice), whether and how stakeholders knew what information to submit (acquiring

context), how information was submitted to policymakers (comment), whether existing accountability mechanisms created an incentive to seek out and consider information (accountability mechanisms), reasons that labor unions and other would or would not participate in the creation of standards (determinants of participation), and how complete and accurate information was related to the purpose of private standards (purpose of private standards).

This section contains descriptions of each of the seven categories and how the data in that category informs the research question. The subcategories and common codes in each category are listed in Appendix C.

1. Value of Union Participation

This category contained data explaining the importance of union input into the standards process. The research did not proceed under the assumption that union input was necessarily important to the creation of occupational safety and health standards. Labor union respondents as well as other types of respondents were asked about what types of unique information unions contribute. The interviews probed for evidence that labor union contributions were not unique and that the information they brought could easily be gathered from other sources.

2. Notice

Data categorized under the Notice category included data on how a labor union (or other potential commenter) would find out that a public or private standard was being created. Data in this category pertained *only* to learning about the standards effort.

Whether the information in the notice was sufficient to permit the formation of meaningful comments was part of the Acquiring Context category.

3. Acquiring Context

Data in this category pertained to how a labor union (or other potential commenter) would learn what a standard is about and what information they should submit to inform that standard. This category included data related to how commenters use the federal preamble and other forms of acquiring context. This category also contained data on whether labor unions have the technical expertise necessary to acquire context about a proposed standard.

4. Comment (Information Collection)

The Comment category contained all information related to how and when groups, primarily unions, submit information to both public and private policymakers. Respondents were asked to describe and compare the most effective forms of participation in public and private standard-setting; the frequency, content, and source of public review comments in both sectors; the role of trade associations in submitting comments in both sectors; the effect of resource constraints on participation in both sectors; and the importance of standards committee membership for participation in ANSI standards.

5. Determinants of Participation

Data coded as Determinants of Participation pertained to reasons that labor unions (or other groups) would or would not participate in public or private standards. Questions on this topic in the open interviews focused on: 1) the merit of Bob Hamilton's claims

(1978) that unions do not want to give legitimacy to the process of private standard-setting by participating; 2) how perceived effectiveness of participation affects the decision to submit comments or participate in other ways, which builds on the work of Furlong (1997) and Furlong and Kerwin (2005), 3) how unions view the importance of private standards for worker safety overall (an idea that emerged from the data); 4) whether unions see participation in private standards as an early stage of participation in federal regulations because of the possibility of later adoption; and 5) how time and resources affect the decision to participate.

6. Accountability Mechanisms

This category includes data on the accountability of public and private policymakers for gathering and considering information when creating standards. There were not any new aspects of accountability in public standard-setting were identified through the research. But several additional aspects of accountability in private standard-setting were identified.

7. Purpose of Private Standards

Information was collected on this issue to better understand the reasons why a non-government SDO may or may not want or need accurate information for a standard or why they would or would not want labor unions to have a seat on the main committee. This data was not included in the manuscript, but it provided a better understanding as to why non-government SDOs would invite labor unions and what the importance of these standards was to society overall.

5.6 Final Interviews

The open interviews, in addition to generating new concepts which could provide the basis for later theory building, provided the context necessary to form the final interview questions which were used to further investigate the effects of the differences described in Chapter 3. After the data from the pilot study and the open interviews was coded and analyzed to form the categories discussed above, a final sample of labor union SHPs was selected to collect more specific data on how commenters acquire the necessary context to comment on public and private standards. There were 13 respondents for the final interviews, including labor union SHPs that had already been interviewed as well as a few new respondents whose names were provided in referrals. An interview protocol that consisted of four main questions and five supporting questions was developed for these interviews. The supporting questions were to collect information on background and experience for respondents who had not yet been interviewed. The main questions and common probes used for these interviews can be found in Appendix E.

The final interviews were conducted with the goal of answering two questions:

1. Is the information in the preamble of a proposed OSHA standard used to form comments? If so, how?
2. Is it possible to gain context about a proposed ANSI standard without committee participation? If so, how?

Although the final interviews were more structured than the open interviews, the interview process still allowed new information to come in by allowing respondents to speak freely and minimizing direction and interruptions. This meant that any data which applied to the seven main categories was compared to already drafted sections of the manuscript and incorporated where appropriate.

5.6.1 Analysis of final interview data

Data from the final interviews were coded similarly to the open interview data, but the coding scheme was less elaborate because the questions were more specific. Like the open interviews, the final interviews were recorded with permission and transcribed. The transcripts were analyzed using a simple thematic approach. Answers to the questions were coded and codes were combined to make themes or categories. In total, four primary themes emerged regarding the use of the preamble and two themes emerged related to acquiring context about ANSI standards. These themes are described in Chapter 6.

5.7 Validity of Findings

In any research study, the findings are interpretations of data that has been analyzed by the researcher. In a regression analysis, an R-squared value of 0.76 would be interpreted in the same way by everyone who viewed it (at least at first) as meaning that 76% of the variance in the dependent variable was explained by the variation in the independent variable(s). However, a researcher who had a deep understanding of the topic of the analysis might say that the R-squared was a coincidence and that the independent variables had no effect on the dependent variable; that is, this researcher would interpret the analyzed data differently and, as a result, would reach different conclusions. The findings of a qualitative study are also based on data (interview transcripts) that have been analyzed (placed into categories and subcategories), but the potential interpretations of the results of the analysis are likely to be more variable. The

ultimate findings of a qualitative study depend on which questions the researcher asked, who was asked and how, the incentives of respondents to shape their answers in a way they believe favors their interests, the tendency of the researcher to collect data or interpret it in a way that supports their preconceptions, how the researcher analyzed the data, and then how the researcher ultimately moves from analyzed data to findings and conclusions.

With respect to the reporting of findings, a statement that “four out of eight respondents monitor the Federal Register” should not be interpreted as meaning that *only* half of people watch the Federal Register (FR) for notices of policymaking. First, the sample size is too small for such a statement to be valid, and second, the interviews did not specifically probe for all possibilities. The other four respondents might have also read the federal register but were not specifically asked if they did. This is because the interviews were largely aimed at exploring the plausibility of many different ideas. Spending time asking all respondents about specific forms of notice would have had a high opportunity cost in terms of other information gathering. The fact that four people stated, without any probing, that they read the FR can be interpreted as meaning that the FR is utilized by some, but perhaps not all, unions to gather information about federal policy activity. The fact that no respondents used the FR as a sole source of information on federal policy efforts and some did not mention it at all could be interpreted as meaning that the FR is not the only useful way to get notice about federal policy efforts and that labor unions do not appear to rely on it as a sole source of information about federal policy activity.

An earlier draft of the findings in Chapter 6 was distributed to a small subset of respondents for “member-checks.” The comments and feedback received from those reviews were treated as data and incorporated back into the findings. Prior to member checks, it was necessary to choose how data would influence and be included in the findings. For any idea to be included in the findings, it had to meet two criteria: 1) there was no negative evidence for the idea present in any of the interviews, and 2) the idea was supported by interview data from multiple, credible sources. Where meaningful, information on the number of respondents who specifically discussed a particular idea was included. In the few cases where there was negative evidence for an idea included in the findings, it was described as a limitation or an uncertainty.

CHAPTER SIX: FINDINGS

The research question of this study asked whether participation is equally effective in public and private standard-setting and why or why not. The goal was to compare the effectiveness of participation in one public (OSHA) and one private (ANSI) standard-setting system on two criteria: 1) how well each system performs at gathering information that is relevant to the standard being developed and 2) whether the accountability mechanisms in each system are likely to ensure that submitted information is considered. The study focused on one type of standard, occupational safety and health standards, and one type of participant, labor unions.

The primary source of data was 66 in-depth interviews with labor union representatives, staff from standards developing organizations, as well as other participants in OSHA and ANSI occupational safety and health standards, including engineers and academics. The interviews focused on several aspects of participation: how participants find out that a standard will be developed, how they submit information to both systems, how they find out *what* to submit, factors that affect the decision to participate, and ways that participants can influence outcomes. Other data sources included committee rosters from ANSI standards; data on the revenues and expenses of standards development; and information from other print sources such as meeting notes, hearing transcripts, appeals documents, and industry publications.

6.1 Summary of Findings

The findings from the interviews were organized into six main sections which followed from six of the seven categories created from the analysis. A description and brief summary of findings follows for each of the sections which are explained in more depth in this chapter.

1. Value of Union Participation

This section explains the importance of labor union participation in occupational safety and health standards, specifically what information labor union participants provide that is unique and relevant to occupational safety and health standards. The value of participation by labor unions in the development of occupational safety and health standards is rooted in three factors: 1) unique access to workers, 2) a broad understanding of how work practices relate to injury and illness, and 3) the lack of any financial interest that would prevent them from sharing information about these topics openly. First, union representatives have unique access to workers mainly because workers may share information about injury causes with union representatives that they would not share with employers. Literature in occupational medicine also provides evidence that workers avoid reporting injuries for fear of retaliation from their employers. Second, information from the preambles of final OSHA standards as well as accounts from the interviews illustrate how unions' knowledge of work practices influences the design of OSHA standards in fundamental ways. Data from some of the interviews suggested that input about work practices in private standards could be lacking where

worker representatives are not present making the resulting standards impractical, ineffectual, or both.

2. Notice

This section discusses how labor union representatives (or other potential commenters) typically find out about OSHA or ANSI standards development efforts that are relevant to workers in their field. The study found that labor union safety and health representatives use multiple sources of information and a practice of “constant monitoring” to find out about OSHA policy activities and almost always learn of policy activities before an official notice of proposed rulemaking. Unions use some of the same methods to find out about ANSI standards efforts (e.g., monitoring occupational safety and health publications) but are more likely to “selectively search” for information about a particular ANSI standard if it becomes important to their members rather than constantly monitor SDOs for activity. Part of the reason that labor unions do not constantly monitor SDOs is the decentralization of these organizations relative to government standards developers makes tracking the activities of individual standards developers inefficient. But due to the periodic revision cycle of ANSI standards, unions or other interested parties can contribute information to ANSI standards committees on periodic revisions cycles, so receiving timely notice about a standard that is being developed might not be as crucial to having input as it is for OSHA standards, which are rarely updated or revised.

3. Acquiring Context

This section discusses how labor union representatives (or other potential commenters) acquire background information and details of a draft standard so they can know which data is relevant to submit. A major difference between the standard-setting process under OSHA and ANSI is that the OSHA process uses a preamble whereas the ANSI process typically does not. The research found that a preamble can be useful to prospective commenters because it narrows later data collection and summarizes background information, but it is not the only tool used by labor unions to acquire context about a proposed standard. Labor union commenters also gather information and clarification about proposed standards from their colleagues, from OSHA policymakers, and from informal regulatory hearings. Highly experienced commenters also rely on their knowledge of past rulemakings and existing OSHA standards to help form their comments. The research also found that, because there is typically no preamble with a proposed ANSI standard, some form of committee participation is important to acquiring the background and details necessary to provide relevant information. Committee participation also improves a participant's ability to work out conflicting points of view and find effective ways to compromise. Forms of committee participation could include membership on the main committee, subcommittee participation, or use of personal contacts and professional networks. However, effective committee participation, in any form, requires some knowledge of the ANSI process, which the data shows is somewhat limited.

Technical expertise does not appear to be an important barrier to participation for labor unions in ANSI or OSHA standards. Staff that work on safety and health issues in

labor unions, at least at the national level, are likely to have an advanced technical understanding of safety and health issues from work background, academic background, or a combination of both. However, the fact that ANSI standards committees often create multiple standards could pose a challenge to main committee members in the sense that they must review and vote on all. In these cases, labor union committee members sometimes request feedback from colleagues who have greater expertise on a particular topic, similar to the approach used by unions when participating in OSHA standards.

4. Comment (Information Collection)

The section on Comment discusses how and when groups, primarily labor unions, submit information during the OSHA and ANSI standards development processes. There are four main findings on this topic. First, the official comment period is not the only opportunity to submit information for OSHA or ANSI standards, and, second, similar to OSHA standards, the majority of information collection for ANSI standards occurs prior to the public comment period. For OSHA, opportunities to submit information prior to the comment period include advisory committee meetings, advanced notice of proposed rulemaking (ANPRM), and stakeholder meetings. For ANSI standards, it is possible for stakeholders who are not committee members to submit information directly to the committee prior to standards development, but the data suggested that this was not common. The data suggested that the majority of information collection is done by subcommittees. Subcommittees often perform the work of drafting or revising standards and recommending resolutions to committee comments, which are then approved by a vote of the main committee. Standards can be drafted without the use of subcommittees,

and in some cases, a draft is prepared even before an ANSI committee has been assembled or a standard is developed through the canvass method where there is no accredited standards committee; a draft is developed by the secretariat and circulated to interested parties for review. A third finding here is that methods of standards development where there is less involvement in the standards drafting phase constrains the breadth of committee discussion on how to solve health and safety problems, often with adverse effects on the quality of the final standard. Fourth, regarding *how* information is submitted, many respondents talked about the importance of informal dialogue for developing standards. Respondents expressed appreciation for the OSHA hearing process and for ANSI committee meetings; both of these forums serve the purpose of emphasizing what the critical issues and disagreements are among stakeholders. Data from some of the interviews suggested that the more discrete nature of ANSI committee meetings relative to OSHA advisory committee meetings or informal hearings was crucial for facilitating discussion about sensitive issues and finding solutions.

5. Determinants of Participation

This section discusses findings from the interviews that pertain to reasons unions (or other groups) would or would not participate in ANSI standards. Given the finding that committee participation is important for submitting information to the ANSI standards process, it is important to understand what factors affect the decision of labor unions and others to participate in these efforts. The study found that the choice of labor unions to participate on ANSI committees, assuming they are aware of the effort, is influenced

primarily by three factors: 1) the view of the utility/effectiveness of non-government standards, 2) time and financial resources, and 3) the perceived effectiveness of participation. Data from the interviews strongly suggest that relatively low union participation in private standards committees (See Table 6-1) is not due to a general opposition of private standards by labor unions but is more a result of resource constraints combined with the need to weigh the benefits of participation in standard-setting against other possibly more valuable means of protecting the health and safety of workers. Labor unions understand the value of private standards and are willing to participate where resources and time allow. Advances in virtual meeting technologies have allowed many standards committees to hold web meetings in lieu of face-to-face committee meetings. While this change will likely make it easier for labor unions and other small groups (e.g., consumer groups) to participate in ANSI standards (the cost of travel was one of the primary reasons cited for not participating on committees), virtual meetings might not be as conducive to discussion of sensitive issues making them less valuable for creating effective standards that all stakeholders can agree on.

6. Accountability Mechanisms

This section discusses ways that labor unions (and other participants) can hold policymakers accountable for considering information they submit. The study found that the ability of labor unions to influence ANSI standards is rooted in professional relationships among colleagues with similar areas of expertise and from their access to unique injury information which is valuable to employers and manufacturers. Although an appeals process is the traditional accountability mechanism in many policymaking

systems, including the ANSI system, the appeals mechanism for ANSI standards is not an effective way to influence standards because it does not require SDOs to rationalize standards in light of available evidence or on a written record the way that federal agencies are required to when creating rules. Committees are only required to offer the opportunity to comment and respond to comments.

The rest of this chapter expands upon each of these sections, discussing the main findings and notable differences between the ANSI and OSHA systems where applicable.

6.2 The Value of Union Participation

The most important point to make about the value of labor union participation in occupational safety and health standards is that unions are the only voice that solely represents workers. This is true for both OSHA and ANSI standards. Seldom do rank-and-file employees participate in national standard-setting activities. The process of recruiting interview respondents for this study entailed a review of comments on federal OSHA and MSHA standards proposed over the past three years. The comments submitted on standards over this three-year period did not contain a single comment from an individual employee on a federal safety or health standard created by these agencies. Although comments were not broadly available to make the same observation for private standards, one interview respondent with more than 30 years of experience explained saying, “The worker himself does not come to a meeting. The union is the only possible voice on the committee.” Another respondent explained that it would be impossible for a typical construction or factory worker to be able to devote the level time and resources necessary to participate in private standard-setting:

So...you work in a plant, you have a job, [and you are] going to have to come to a meeting for [several] years in the middle of the day. It is impossible to ask someone to do that.

Besides their role of being the exclusive representatives of workers in national occupational safety and health standards, three other conditions emerged from the interviews which make union participation important to the creation of both OSHA and ANSI occupational safety and health standards. These conditions are open communication with workers, knowledge of injury and illness causes related to work practices, and lack of a financial incentive.

6.2.1 Open communication with workers

Even in cases where employers have active safety and health representatives, union reps may have more accurate knowledge about injuries and illness than employers due to more open communication with workers. Employees may be willing to communicate more openly with union representatives about injuries for several reasons, but the most important reason appears to be fear of retaliation by their employers for reporting injuries. One union respondent described the culture on some construction sites where supervisors might tease workers for reporting “small” injuries. Another discussed a case where employees were unwilling to testify about the existence of workplace hazards which had severely injured a co-worker for fear of losing their jobs. A paper recently published in the American Journal of Industrial Medicine found that 58 percent of surveyed carpenter apprentices had experienced a negative consequence or reporting a work-related injury. This “fear of reprisal” was associated with reduced injury reporting. (Lipscomb et al., 2013) Besides providing union reps a more complete understanding of

injuries causes, open communication with workers can also help unions to understand how employees may have incorrectly interpreted safety instructions or obstacles to participation in workplace safety training, both valuable components of successful standards.

6.2.2 Substantive knowledge

OSHA rulewriters or ANSI committee members may not have as complete an understanding as unions do of the relationship between work practices and occupational injury and illness. Final OSHA rules highlight contributions by labor unions, which are often focused on accurate understandings of work practices and how they are related to injury and illness. The final rule amending Assigned Protection Factors for respirators mentions information submitted by unions related to work practices. Union commenters noted that the data analyzed by OSHA to generate the Assigned Protection Factors (APF) was “not representative of conditions found in the construction industry or of workplace conditions in general.” Union commenters also noted that it was incorrect assume that fit check cups were used in the workplace to check the seal of a respirator, and they also described the importance of keeping APF tables in multiple places in the CFR so that workers and training staff do not have to look more than one place to find the information they need. (71 FR: 71:50121-50192)

Engineers, manufacturers, insurance agents, and other committee participants may never have worked in or spent time in the field that is the topic of the standard they are developing. Even employers’ safety and health representatives may have solely academic backgrounds and may not have ever performed the actual work that the

standards apply to. Some, but not all, of the labor union representatives interviewed for this study had formerly held jobs performing the work of those they represented. Most also had academic backgrounds in occupational safety or industrial hygiene. Union representatives were also likely to have knowledge of how a certain work task is performed across many factories or jobsites along with injury rates, giving them a broad understanding of how work is performed and how it should be performed to avoid injury or illness.

Many unions conduct injury and fatality investigations at unionized factories or jobsites giving them a unique opportunity to see how and why an accident occurred. Because union SHPs see the conditions and injuries across many worksites, they might have a broader understanding of how hazards affect employees overall, rather than a more narrow view of why one employee was severely injured or killed. One union respondent described the process of inquiry that accompanied an investigation of a fatal factory accident and the process of finding out what was common practice for cleaning a particular machine which led to the accident:

So I spent the day at [the factory where the fatality occurred], and I talked to the engineers there. Then I called the people at [a similar plant] and I asked "If you repair this piece of equipment, what is the process that you use to do that?" And so you have this very good support network of people saying, "Here's how you use it. Here's how you can safely repair it..."

In addition to injury investigation, unions might conduct surveys and interviews at worksites in response to injury or illness complaints. This information improves their own understanding of injury and illness, and information collected from these exercises may result in employers making changes regardless of whether federal, state, or private

standards are passed. Also, labor union SHPs conduct training as part of their jobs, which allows them to, as one person described it, “understand where the gaps are” in employees’ understanding of safety.

The combined knowledge of work practices and the causes of injury and illness may also allow union SHPs to inform committees when changes to a standard are likely to make work practices more difficult with little or no improvement to safety or health. One union respondent explained:

We are all concerned about safety ... but we try to prevent cosmetic changes or changes that maybe sound like a good idea and people want to incorporate it, but it has no positive effect on safety in our industry...

In this respect, the knowledge of union SHPs may even help to protect small businesses from being subject to onerous requirements that have little or no health and safety benefits for workers in the industry.

A lack of understanding about how or why workers engage in certain work practices can negatively affect the quality of standards. It could be possible for a *solution* to actually create another safety problem when workers readjust their practices. It is also possible that a safety solution is not feasible given the tasks that need to be performed or that it will not improve safety at all. Some examples from the interviews suggested that the private standards development process could be lacking in its ability to collect information about work practices as they relate to injury and illness. One safety engineer with long-term committee experience, when asked how standards committees gather information about work practices, explained:

Truth is, much of the worker practices information is theoretical framework, sadly – “I heard how they do it” with a lot of “how would I do it if I were doing it” approach. I

have known maybe 200 committee members over 35 years, and few on a standards committee actually watch how workers do the tasks – most committee members are engineers and managers, and they tell workers what to do... and let it sort itself out... rather than ask or observe.

Another respondent explained that unions can bring “practical knowledge of... the way that things are done in the field” and joked that “For a while, we were using the term PDF, poor dumb fuck, the person that has to live with these standards.”

Other accounts in the interviews, however, countered the idea that committees do not “do their homework,” so to speak, when developing standards. Some described examples of robust research being conducted in support of the standard-setting process, including the development of risk assessments and field testing of processes and equipment. Perhaps what can be gleaned from these conflicting accounts is that standards outcomes are largely dependent on the particular mix of committee members’ experience and expertise. A mix of expertise can lead to people challenging each other’s viewpoints, ultimately resulting in higher quality standards.

References to inferior or inappropriate standards were not limited to the private sector. One member of a non-government standards committee, not from a labor union, expressed that OSHA standards are often technically incorrect. It is possible that neither system is able to perfectly vet and incorporate information and data into final standards. Still, if labor unions have unique or exceptional understanding of work practices and their relation to occupational injury and illness, then their views will be valuable to the process of developing standards.

6.2.3 Lack of financial incentive

A final condition that could make union participation in, at least private, standards unique and important is that they lack any financial interest in the outcome of the standard. Most of the participants on private occupational safety and health standards committees are for-profit interests (see Table 6-1). So even if other committee members have similar information about how work practices relate to injury and illness, they might be unwilling to share it. Employer SHPs may also conduct accident investigations and collect data making them aware of safety and health issues in their firm, but they may not be comfortable criticizing the performance of their employers and may even find themselves under pressure to find workers responsible for accidents. Union SHPs, on the other hand, are more comfortable frankly disclosing the safety and health issues of a particular plant or employer.

While some respondents noted the more open and fluid nature of deliberation in private standards committee meetings relative to OSHA hearings or advisory committee meetings, it was still suggested that employers or manufacturers might not want to admit to knowledge of injury causes openly in front of other committee members, such as insurance companies or safety consultants, who might later testify in an injury lawsuit against them. Unions, on the other hand, do not have any financial interest in the outcome of the standard or in sharing information about injury causes. Government representatives, including NIOSH, OSHA, MSHA, and state representatives, also lack a financial interest in the outcome of standards, but they might not have access to the types of information that unions have.

6.2.4 Summary

This section describes several conditions which make labor union participation in occupational safety standards important: open communication with workers, knowledge of work practices and how they cause injury and illness, and the lack of a financial interest in the outcome of the standard or in disclosing safety and health issues. These conditions highlight the potentially unique contribution of union SHPs to occupational safety and health standards. While labor union participants might not always have unique information that is important to a certain occupational safety and health standard, the interview data revealed several reasons that their contributions are important. Based on this data, it is reasonable to assume that their participation is valuable to the development of occupational safety and health standards. Worth noting is that union input may not be useful to all types of standards which would be classified as occupational safety and health standards. One respondent noted that union input is not often useful to standards that are strictly design-oriented. However, union respondents and others who served on committees felt that more time is spent focusing on design specifications in standards when unions are not present. It is possible that union participation shifts the focus of occupational safety and health standards away from more design-oriented solutions to ones that are more likely to have work practice-oriented solutions.

6.3 Notice

Notice should be “sufficient to alert all [stakeholders] of the opportunity to submit comments” to be considered adequate. This section discusses how labor union

representatives are likely to find out that OSHA and ANSI standards are being developed. A few notable themes emerged from the interviews related to this issue. First, labor union commenters are likely to find out about OSHA/MSHA standards development efforts long before the official notice of proposed rulemaking. Second, labor union commenters may receive notice of OSHA and ANSI standards development from some of the same sources. Third, because ANSI standards are revised periodically, it may not be as crucial to receive notice that changes will be made as there will be later chances to provide input. So, finding out that an ANSI standard exists may be adequate notice for later participation. Finally, decentralization of ANSI standards developers makes it more difficult for labor union commenters (and others) to monitor their activities.

6.3.1 Notice of federal standards

The interviews revealed that labor unions (and others) routinely seek out information about federal agency policy efforts in various ways and that they do not rely on a single method. They receive notice in multiple ways which include watching the Federal Register (FR), watching the OSHA website and/or other OSHA publications for updates on activity, communicating with their members, participating on advisory committees and informal requests for information by OSHA, and AFL-CIO may also inform them of OSHA policy activity.

None of the union respondents who discussed receiving notice from the Federal Register indicated that they did so at the Notice of Proposed Rule Making (NPRM) stage. Instead, they learned of potential rulemaking efforts through Requests for Information (RFIs), through OSHA's regulatory agenda published every six months, or through an

Advanced Notice of Proposed Rulemaking (ANPRM). The union respondents interviewed for this study might not have relied on the traditional notice because they had many years of experience with federal policymaking which taught them about these earlier forms of notice. A few non-union respondents who were interviewed in the pilot study did indicate that they relied on the NPRM for notice of federal policymaking activity. It is possible that experience and specialization in a specific policy area leads to learning about ways to receive earlier notice of federal policy efforts.

Some union respondents, when asked how they first become aware of OSHA policy efforts, discussed petitions and other strategies to pressure OSHA to create policy. Because labor unions encourage or advise many OSHA standards, they are likely to be aware of efforts before any formal notice of rulemaking. One respondent explained:

OSHA is understaffed and underfunded, so they have to pick and choose what is most important to them. They choose that based on how much they are being pushed. So if there is [policy activity], unions have probably... motivated it, so they would have already known about it.

In general, labor union representatives use a practice of “constant monitoring” to stay apprised of OSHA activities. This is accomplished through the methods described above—watching the federal register, reading OSHA publications, etc.—but it also appears to be greatly dependent upon networking of union SHPs. Union SHPs gather in various forms, primarily through meetings organized through the AFL-CIO but also through safety and health conferences, to exchange information about safety and health hazards and federal policy efforts. One union respondent described a recent experience in which an OSHA policymaker sent her questions about a safety hazard via email. The questions were directed to this person because she had made a presentation about this

newly discovered safety hazard at an OSHA advisory committee meeting. The OSHA policymaker wanted to find out more about the details of the hazard prior to engaging in any formal information collection efforts such as publishing a Request for Information in the Federal Register. This informal email led to the recipient notifying other union SHPs of OSHA's questions and asking for their input to help draft her responses, which resulted in this group of safety and health representatives being, in a sense, *noticed* that a policymaking effort in this area might soon be underway. So the process of information gathering by OSHA combined with an effective network of union SHPs served to alert potential commenters of upcoming policy activity prior to any formal notices published in the Federal Register or elsewhere.

Regarding the issue of timeliness of the notice, one union respondent remarked, “[On] the big rules, no one can claim that they’ve been caught unaware when these processes take years or decades.” Indeed, OSHA’s lengthy rulemaking process was the topic of a recent report by the Government Accountability Office. The report found that, on average, OSHA standards take 7 years to develop and finalize, and many exceed 10 years. (GAO, 2012) The NPRM typically is published about halfway between the Request for Information or Advanced Notice of Proposed Rulemaking and the final rule. The long process of rulemaking combined with intense media coverage of OSHA standards activity presumably serves to provide adequate notice of OSHA standards to interested stakeholders. However, the interviews suggest that early notice, i.e., notice prior to the NPRM, is still dependent on a strategy of using multiple sources of information and being plugged in to the proper networks. A newcomer to the field of

occupational safety and health might not know to look at OSHA's regulatory agenda as a means to prepare for commenting on upcoming standards or might not be plugged into networks that would alert him or her of upcoming activity. This could mean that some people receive notice later than others simply because they are new to the process and have less effective search strategies or less developed networks.

6.3.2 Notice of ANSI standards

Methods used by labor unions to find out about ANSI standards activities are similar to those used to gather information about OSHA standards activities. People learn of ANSI standards activity primarily through professional society and/or industry publications and listservs but also through networking with other safety and health professionals (e.g., conferences, meetings with other union safety and health professionals). Another way that labor unions learn about ANSI standards is targeted searching for standards, which can happen in response to a specific injury problem. One respondent described this process as "digging" and noted that communicating with other professionals in the field was important to being able to find the standard(s) which are most relevant to an injury problem.

None of the respondents described behavior which could be construed as "constant monitoring" of ANSI standards activities like what is done with government standards. This could be due to the fact that ANSI standards are typically revised or reaffirmed every 5-10 years. Therefore, learning that a standard exists can serve as a form of notice for later when the standard is revised. Unlike OSHA and MSHA standards which are rarely, if ever, revised, ANSI standards are continually revised in response to new

conditions, new technology, or accidents in an industry. As opposed to constant monitoring, labor unions respondents described a process of finding out about standards which were relevant to them and then trying to make sure there was a labor union representative participating in the committee if the standard seemed important. Given the reality of periodic revision of ANSI standards, it makes sense that stakeholders would devote fewer resources to constant monitoring. On the other hand, some of the interview data also suggested that unions are not likely to be aware of all private standards which are relevant to their members, ANSI or other, and, even if they know that a standard exists, they are unlikely to be aware of when revisions are taking place.

Non-union interview respondents also learned of standards through professional society and/or industry publications and through networks, but also mentioned other ways to learn about ANSI standards besides being noticed during the comment period. One former employee of a construction company (now an independent safety consultant) mentioned learning about new ANSI standards through the company law firm and through procurement contracts which specified that a particular safety standard be adhered to in order to be eligible to receive the contract. One small business owner explained that, prior to OSHA, insurance companies used to do safety and health inspections which included verification of compliance with private standards. Although ANSI provides notice of all ANSI standards and some non-ANSI standards in its weekly publication, *ANSI Standards Action*, none of the respondents, labor union or other, mentioned the use of this publication as a way to receive notice of proposed standards.

The interviews also provided numerous examples of labor union representatives who participate in the development of private standards notifying workers, employers, and other labor unions about the standards. They accomplish this in several ways. First, labor union SHPs sometimes use standards as the basis for safety training. Second, unions often do inspections of workplace accidents and might use the standards as a basis to determine whether workplace conditions and practices were in compliance with ANSI standards at the time of the accident. Finally, labor union SHPs who serve on standards committees might request input on how they should comment on a standard from their colleagues.

One potentially important obstacle to receiving notice of ANSI standards relative to OSHA or MSHA standards is that ANSI standards developers are relatively decentralized. Most, or at least a majority, of federal occupational safety and health standards are created by OSHA or MSHA. This is not the case on the ANSI side. There are at least 31 organizations that develop one or more standards pertaining to the health and safety of workers (see Table 4-2). Eighteen of these organizations sponsor the development of ANSI standards. A similar table in an occupational safety engineering textbook shows that there are 35 different non-government SDOs and five government agencies that create standards that apply to various safety and health hazards in chemical plants (Hammer & Price, 2001, p. 75). With respect to In reference to the table of standards authorities, the authors assert that, “In recent decades, ... laws, standards, codes, and other documents related to health and safety have multiplied until they are now a great challenge to understand and master.” (p. 73) The authors go on to provide an

example of five different and incongruent criteria for electrical capacitors in standards set by four different non-government SDOs and one federal agency. (p. 82) In general, the large number of ANSI standards developers and other non-government organizations that create occupational safety and health standards makes it difficult to effectively monitor their activities.

6.3.3 Summary

The Federal Register (FR) appears to be an important tool for labor unions and other stakeholders to gather information about federal policy activity, but it is not the only tool that is used. No respondent reported using the FR as their sole source of information about federal policy activity, and several did not mention it at all. The interview data suggests that potential commenters use multiple sources of information and a practice of constant monitoring to stay informed of federal policy activity. Most importantly, none of the labor unions respondents learned of federal policy activity at the NPRM stage; they received notice of federal policy activity before the formal notice during the information collection phase of policymaking. Both formal and informal information collection activities alerted labor unions that policymaking efforts were underway at OSHA. Similar methods in addition to selective searching were used to track private standards activity, but decentralization combined with relatively obscure methods of notice could prevent many union SHPs, even those with well-developed networks from learning that a standard exists or is being revised.

Some recent research indicates that the more important problem, besides informing stakeholders that an ANSI standard is being created for purposes of allowing them to

participate, might be informing those who could be affected by them that they even exist. Lipscomb et al., (2010) found that only 16 percent of contractors were aware of a particular ANSI standard for nail gun safety five years after its publication. This could suggest that stakeholders such as workers and small construction companies who do not monitor industry publications are not likely to find out about private standards at all.

6.4 Acquiring Context

Beyond alerting people that a standard is being developed, notice should also “provide sufficient factual detail that it permits interested parties to comment meaningfully” and offer “informed criticism.” For a stakeholder to comment on a standard, he or she must be able to read, at least, the text of the standard being proposed and must be able to understand the basis for the provisions contained in the standard. Certain conditions of the ANSI standard-setting process, such as the lack of a preamble and the cost of the draft standard, could make participation less effective in the ANSI process based on this criterion. Previous research (Hamilton, 1978) has also suggested that a lack of technical expertise is a barrier for labor union representatives to participate in standards development, but the data collected in this research did not support this view. These concepts—the importance of the preamble, the effect of the cost of the draft standard, and the potential barrier of technical expertise—are discussed in this section.

6.4.1 The use of the preamble

One of the primary differences between notice and comment in the creation of public and private standards, as discussed in Chapter 3, is the use of a preamble in the notice.

Federal NPRMs contain a preamble which provides background and context regarding the proposed standard. A notice of a proposed ANSI standard in the *ANSI Standards Action* often consists only of a short paragraph containing the name of the standard, a 2-3 sentence description, and contact information for obtaining a copy.

The pilot survey and interviews searched for evidence that the lack of a preamble in the notice of ANSI standards could be an obstacle to submitting relevant information, but the data returned mixed results. The surveys, which did not focus on labor unions, asked specifically if federal NPRMs provided enough information for people to understand how their interests would be affected by a rule and whether they provided enough information for those affected by a rule to submit a meaningful comment. Of 18 respondents, only four felt that the information in the notice provided adequate information for people to understand whether their interests would be affected by a proposed rule, and six did not respond to the question; eight felt that the information in the notice did not provided adequate information for people to understand whether their interests would be affected. Seven respondents felt that the NPRM provided enough information for people to submit a meaningful comment, five felt that it did not, and six did not respond to the question. Overall, these results were difficult to interpret due to response rate and the differences in the types of respondents who completed the survey.

Eight of the eighteen survey respondents had submitted comments on private standards, four of whom felt that the information in the notice was sufficient to submit a comment. However, it was not clear how they had received notice, and therefore, it was not clear what information was available to them. The early interviews revealed that

some people interpreted “notice” of ANSI standards as what happened in the committee when the final standard was sent around for final comments. Unfortunately, the only two people who indicated that they would be willing to participate in an interview did not respond to later requests, so their responses could not be clarified.

In the pilot interviews, five people were asked about the importance of the information in federal NPRMs to submitting comments. The question asked was: How important is the information in the notice to submitting comments on federal rules? All five who were asked this question indicated that the information in the notice was important; the responses contained three reasons for why the information in the notice was important: 1) it is used as the basis to challenge proposed rules, 2) it helps to make sure that all commenters are on the same page, that everyone is engaging in the same argument, and 3) it saves time for commenters if the issues are narrowed down so they do not have to do additional research to support their comments.

While it seems reasonable to assume that the federal preamble is useful to commenters for learning about a standard and determining what information to submit, no research has ever been done to support this assumption. Information collected in some of the early interviews suggested that: 1) the preamble was, in fact, important to forming comments on federal standards and 2) that it would be difficult, if not impossible, to gain context about an ANSI standard without some form of committee participation. Later interviews focused on these concepts in greater depth. To further clarify the importance of the preamble for comment formation, respondents were asked two main questions:

1. When you have commented on federal standards, did you use the information in the preamble to help form your comment? If so, how?
2. In what other ways besides the preamble did you gain context about the standard so that you could comment?

The responses to these questions were analyzed to better understand whether the preamble is an important tool used by labor unions for forming comments, how it is used, or if, under certain circumstances, it is not used at all. In general, the responses to these questions show that labor union SHPs use the preamble to help form their comments on OSHA standards, but the way they use it and their view of its importance depends on their level of experience participating in the federal system. There were three primary findings from the interview responses.

1. The information in the preamble is useful in forming comments, but other sources of information are also used.

The preamble is useful to commenters because it narrows the scope of commenting and can make post-NPRM data collection efforts more efficient. Comments on occupational safety and health standards could apply to the scope of the standard (i.e., which industries must comply), the level of protection required in the standard (i.e., whether evidence supports the need for greater level of protection and whether technology exists to achieve it), whether the standard is enforceable, and so on. By documenting the basis in writing for each aspect of the proposed standard, OSHA establishes the assumptions which can be brought into question during the comment period and frames the terms of the argument.

Even though the information in the preamble can be useful, prospective commenters still rely on other sources of information to form comments including, primarily, their

own past experience and discussion with colleagues. When commenters do not understand something in the regulatory text, they might look up sources cited in the preamble to understand the basis, but they are also likely to discuss the issue with their peers, e.g., other labor union SHPs, or with their contacts at key organizations. For example, in the case of a permissible exposure limit (PEL), prospective commenters might seek out additional information on the basis for the standard from contacts at the American Conference for Governmental Industrial Hygienists (ACGIH). Respondents also reported seeking clarification from OSHA in some cases, but views of the utility of this strategy for clarifying provisions in standards were mixed. Some felt that OSHA was hesitant to communicate after a standard had been proposed to avoid the appearance that they might be collecting additional input off the record.

2. The amount of information in a federal preamble can be overwhelming and can obscure the important issues.

The preamble for OSHA's most recent proposed standard, *Occupational Exposure to Respirable Crystalline Silica*, was 230 pages long. The text was dense and technical, summarizing prior input from stakeholders, the results of a lengthy health effects analysis, the benefit-cost analysis, and a job effects analysis, as well as laying out the actual requirements of the proposed standard and explaining who would be affected and how. Neither a table of contents nor an index was provided. Due process requirements for rulemaking have proliferated in recent decades, and many have added requirements to provide additional analyses and explanatory materials leading one labor union respondent to conclude that "Reading the entire docket would be a full-time job." Although OSHA and other regulatory agencies painstakingly docket and record all collected information

and often provide analysis of that information, the level of material can actually degrade transparency by burying the most important issues in a mountain of documents.

The strategy for forming meaningful comments in light of the overwhelming amount of information to be reviewed is that labor unions, organized by the AFL-CIO, typically cooperate to form comments on proposed OSHA standards. This involves the practice of SHPs of labor unions whose members will be affected by a rule each assuming responsibility for forming comments a specific aspect of the rule. While some may read the entire preamble or even the entire docket (including background materials) in detail, most take the approach of focusing their efforts on the specific aspects of the rule that affect their members and/or the aspects for which they have expertise. But even using this strategy, respondents with multiple decades of experience indicated that it was sometimes difficult to sort through the material and ascertain whether OSHA had considered previous information that was submitted and whether it had affected the proposed standard and how.

Though labor unions have evolved a system of cooperation and dividing labor to review of the vast amount of information that is generated by OSHA during a rulemaking, the same might not be true of other smaller groups who do not have the advantage of strong networks with other groups who share similar interests. Managing the task of reading the preamble and accompanying documents could prove overwhelming to a small organization, especially one who was inexperienced in the rulemaking process.

The overwhelming amount of NPRM materials that accompany a proposed OSHA standard can make it difficult to know what the major “sticking points” in a standard are, e.g., what industry disagrees with the most or which elements of the standard are critical to its ability to improving health and safety. This problem is somewhat mitigated in the case of OSHA and MSHA standards through the use of oral hearings. Hearing testimony naturally focuses on the most important issues and the hearings provide the opportunity to question both OSHA rulewriters and commenters which can help to clarify the basis for the rule.

3. Prospective commenters with less early involvement and/or less experience participating in standards rely more on the preamble for background information.

The interviews suggested that commenters from unions with small safety and health departments may rely on the preamble more for background information because they are not able to spend time in their positions keeping up with the current literature and data trends. While these smaller unions will still benefit from the efforts of AFL-CIO, this finding points to the possibility that a preamble may be of greater importance to small organizations with less time to be deeply involved in a policy effort from the beginning.

Although commenters with less early involvement are more likely to benefit from the informational aspects of the preamble, even experienced commenters are likely to learn something from OSHA’s policy work. Prior to the NPRM, labor unions and other stakeholders provide information to OSHA. Just as stakeholders synthesize information to comment on rules, OSHA synthesizes many sources of information to develop the policy that is best supported in light of the evidence. One respondent described the

NPRM as the phase of rulemaking where OSHA provides information back to prospective commenters.

The way the preamble is used also depends on the commenters' level of experience participating on standards and their background with the development of the particular standard. Experienced commenters will not only comment on the adequacy of the proposed standard to mitigate an occupational hazard but will focus specifically on providing information to the rulemaking record that will help to bolster OSHA's rationale that the standard is necessary and reasonable in light of the hazards. Furthermore, for experienced commenters, becoming familiar with the information in the preamble is a proportionately smaller share of comment preparation than it is for inexperienced commenters. Many of the oral testimonies from labor unions at the OSHA Silica hearings relied on knowledge of previous standards to support positions of why a change was needed or why a certain provision should or should not be included. Likewise, commenters who have kept up with the issue of the proposed standard will spend less time reading the preamble and will focus more on the actual regulatory text to see if it aims for the preferred level of protection and if the proposed methods will ensure that that level of protection is reached.

6.4.2 Acquiring context about ANSI standards

Some of the early interviews suggested that acquiring context about an ANSI standard is difficult or even impossible without committee participation. The final interviews focused on this concept through two main questions:

1. When you are no longer involved in the standard in your current capacity (i.e., on a committee or subcommittee), would you participate by submitting outside comments on the standard?
2. a) [If no] Why would you not participate in this way?
b) [If yes] How would you gain information about the proposed standard to participate without being on the committee/subcommittee?

The questions were designed for people with experience participating in the ANSI system. Themes from the responses to these questions strongly suggested that knowledge of the ANSI standard-setting process and strong networks are important to acquiring context about ANSI standard. Two primary findings or themes came from the interview responses.

1. Commenters rely on networks and/or personal contacts to acquire context about ANSI standards.

All eight respondents to these questions, all of whom had participated on an ANSI committee, indicated that they would utilize their networks and personal contacts to gain context about an ANSI standard to participate if they were not currently on the committee. Some stated that they would contact another labor union SHP who was on the main committee or a subcommittee, and some stated that they would contact the secretariat directly. One person explained that while everything is announced in the *ANSI Standards Action*, it is still important to understand the ANSI system for knowing how to get important information.

2. Knowledge of the ANSI process is important for knowing how to access information about standards

People with experience participating in the ANSI system suggested that the most effective method for participating in ANSI standards without committee membership

would be to request observer status on a subcommittee of a standard they were interested in. Participants with observer status receive emails and updates about the standard and may have access to Wiki sites or a similar forum. Such forums are not required by ANSI, however, and might not be provided by all SDOs. A request for observer status can technically be rejected; one respondent explained that if it was suspected that a person wanted observer status simply to hold up the standard in some way, their request might be denied. But, in general, observer status is an effective way to monitor the development of an ANSI standard and/or to submit information to the process.

6.4.3 Technical expertise

Technical expertise is often touted as one of the most important, if not *the* most important, benefit of standards created in the private sector (Weimer, 2006). The purpose of the Administrative Procedure Act (APA) was, in part, to improve access to the expertise of private stakeholders by agency policymakers. The fact that federal agencies are not likely to house all of the expertise necessary to create regulations in their area is well understood. However, the largest benefit of standard-setting in the private sector—greater access or utilization of expertise—might also be the largest obstacle to outside participation. However, the interview data did not indicate that technical expertise was an important obstacle to participation in OSHA or ANSI standards development for labor union SHPs.

Occupational safety and health standards are often highly technical, but the interviews did not indicate that lack of technical expertise is necessarily an important obstacle to participation for labor unions in either OSHA/MSHA or ANSI standards. Many of the

labor union respondents who worked on safety and health issues for their unions hold graduate degrees in occupational safety or industrial hygiene; others have multiple decades of experience in their field. Many of the national-level respondents indicated their knowledge and understanding of technical literature in their field and participated in scientific/professional conferences related to their field of expertise. Two respondents did indicate that the technical nature of the standards sometimes made them difficult to read and comprehend, but others did not indicate that they had any difficulty understanding the technical aspects of standards when questioned about the issue. One respondent stated that she would sometimes abstain from voting if the standard was too technical for her to understand but said this happened infrequently.

Private standards are sometimes broad and contain content which spans across several fields, e.g., electrical safety, engineering design, testing methods, etc. For example, the standard *Occupational and Educational Personal Eye and Face Protection Devices* developed by the ANSI Z87 committee (ANSI Z87.1) covers testing requirements for flammability, ventilation, and impact and maintenance instructions for respirators, welding helmets, faceshields, and goggles. The standard *Safety Requirements for the Use, Care and Protection of Abrasive Wheels* developed by the ANSI B7 committee (ANSI B7.1) covers speed control for grinding machines, mount design for abrasive discs, electrical voltage, and design and strength of safety guards, among other topics. One respondent, a non-union safety engineer, explained that someone who is "...an expert now may not be an expert in 30 seconds, because of the breadth of the area covered in a committee." Furthermore, while labor union SHPs might lack substantive

expertise in a certain area, this is certainly true of other committee members. Even manufacturers, employers, and engineers will not be technical experts on all aspects of a standard just as many people on the committee are not experts in work practices or causes of injury, a relative strong suite of the labor union participants. In some standards, the expertise of labor SHPs even outweighs that of other committee members leading one non-union committee member to remark "...in some areas...I don't think we could work without them. Their expertise is absolutely imperative to [some] standards."

Although technical expertise does not appear to be a barrier to participation in private standards for labor unions, it should be noted that this might not be true for other non-profit participants in other policy areas. Early interviews with consumer group representatives who had participated on private standards committees suggested that technical expertise is more of a barrier for would-be consumer participants, if not for any substantive reason (maybe consumer reps could easily learn technical subject matter), perhaps simply because they find technical discussions intimidating. One consumer safety representative who lacked an academic background claimed she found the number of engineers on the committee she served on to be overwhelming and that their dominance in numbers usually meant dominance over the discussions that took place during committee meetings. Furthermore, whereas consumer safety groups tend to focus on a very wide range of issues that are constantly changing in response to new products, a labor union SHP is probably likely to focus on a relatively stable set of safety issues affecting the workers represented by his or her union. For example, window cleaners will always face fall hazards which concern a finite number of products and practices, such as

the proper use of scaffolds and harness design. Carpenters might face dangers primarily from power tools they use on the job site. Factory workers might be most concerned with conveyor belt safety and line speed and electricians with electrical hazards. Finally, it might also be harder for those without technical expertise to participate in private standards that are inherently more complex in nature than occupational safety and health standards.

One important issue related to the issue of technical expertise concerned multiple standards being developed by the same committee. One committee participant remarked that it was sometimes difficult to comment effectively on all of the standards set by the committee she served on because they spanned several areas of technical subject matter. In such cases, the respondent reported that she would seek information from her colleagues outside the committee for guidance on how to comment. The information in Table 6-1 shows that many ANSI standards committees develop more than one standard.

6.4.4 The cost of ANSI standards

Interview responses regarding whether and how the cost of ANSI standards affects participation were mixed. Some labor union respondents suggested that the cost of standards is not an immediate obstacle to participation as the draft standards are often available free of charge to committee members and others participating in standards development. However, the cost of the draft standard could still have more subtle effects on participation. For example, a labor union (or other non-profit organization) might be unlikely to purchase several standards to determine which are relevant to members. As discussed previously, there are often many standards which pertain to similar issues, and

it can be hard to know which one covers a particular safety issue without reading the content. In general, the issue of cost was not raised and responses to the question of whether the cost of standards affects participation seemed to be more focused on the fairness of the practice rather than the actual burden. Perhaps most importantly, the only people that brought up the issue of the cost of the standard without being directly questioned about it were two small businesses who had not participated in any standards committees. They were speaking from the standpoint of purchasing the standards to comply with them in their operations rather than to participate in their development. The issue of having to pay to read standards which affect you is another issue of due process which is very important but is beyond the scope of this research.

In lieu of further interview questioning, it seemed more constructive to examine and provide information on the actual cost of private standards. A review of five randomly selected issues of the *ANSI Standards Action* (published weekly) from the 2013 calendar year showed that, of a total 339 proposed new standards and revisions to existing standards in those five issues, 202 of the proposals (60%) offered free access to copies of the standard. Of those, 65 provided a hyperlink in the notice to view the changes to the old standard. Eighteen of the proposed standards (all proposed by Underwriters' Laboratories) did not provide the price of the draft standard in the notice. The remaining 119 proposals (35%) listed a price for the draft standard; prices ranged from \$5 to \$705; the average cost was \$73. Twenty-one of those 119 cost more than \$100. These prices covered private standards in all policy areas because it was not possible, from the notice alone, to ascertain whether they applied to occupational health and safety.

In 2012, a petition from Peter L. Strauss, law professor at Columbia University, and others argued that the National Archives and Records Administration (NARA) should require private standards to be printed in the Federal Register when they were incorporated into federal law. Although NARA denied the petition saying that it did not have the authority to revise the policy, the American National Standards Institute launched the IBR Standards Portal (<http://ibr.ansi.org/Default.aspx>), a website which provides free, read-only access to standards incorporated by reference into federal government regulations. The tool allows users to download a copy of a standard to a personal computer, but the standards cannot be copied or printed. However, the site does not improve access for those wishing to participate for two reasons. First, the standards are already final at the time they are incorporated. Second, in the case of occupational safety and health, standards incorporated by reference are typically older versions of the standard. There are 663 references to private standards in 29 CFR and 30 CFR, the OSHA and MSHA regulations, respectively. Of those, nearly 75 percent are references made to standards prior to 1980 which are still in effect. The change will, however, improve access for businesses that need to read standards to be in compliance with OSHA and MSHA regulations.

6.4.5 Summary

Information was collected in four areas related to how prospective commenters acquire context about a standard—the use of the federal preamble, methods of acquiring context about private standards, technical expertise, and the cost of non-government standards. Three themes emerged from interview data collected on the use of the federal

preamble which were that the preamble is useful but not the only tool used to form comments, the amount of information in a federal preamble can be overwhelming and can obscure the important issues, and commenters with less early involvement rely on the preamble for background information. Short of committee participation, respondents indicated that the most effective methods for acquiring context about ANSI standards would be to rely on personal contacts with the SDO or their colleagues or to request to be added to subcommittee communications. Acquiring context about ANSI standards requires knowledge of the process and connections with people who participate in or organize standards. Contrary to Hamilton's claim that technical expertise was a barrier to participation for labor unions, none of the data collected in this research suggested that was the case. Most of the committee participants, who would also be the people participating in OSHA and MSHA standards, had a graduate degree in occupational safety or industrial hygiene and/or had a long history of work experience in their field. Furthermore, a lack of technical expertise about some aspects of an ANSI standard is not uncommon. Responses on the effect of the cost of standards on ANSI participation were mixed. While several respondents voiced disapproval for the practice of charging for standards, it was not clear that the cost was a significant obstacle to participation. However, the cost of draft standards could prevent labor unions from deciding that they want to participate because they are unlikely to purchase copies of numerous similar standards to read their content. The cost of private standards may, however, be an important obstacle to compliance, an issue which is beyond the scope of this research but which should be examined in future research.

6.5 Comment

A comment period creates an opportunity and a method for stakeholders to provide information to policymakers. Although the comment period refers to a specific time when stakeholders can submit comments on a proposed standard, submission of information to policymakers can take many different forms, and most information that becomes the basis of federal rules is submitted to agencies before the formal comment period (West, 2004). In concept, “comment” can mean information presented to an agency through advisory committees, submission of information via a petition, informal communications such as stakeholder meetings, responses to requests for information, comments on advance notice of proposed rulemaking, participation at hearings (like those held by OSHA during rulemaking), and/or the submission of written comments during the notice and comment period. Information can also be submitted to ANSI committees during a formal notice and comment period but is also submitted in other ways, including through subcommittee work and committee meetings. The timing and formality of information collection in the OSHA and ANSI standard-setting processes are discussed in this section.

6.5.1 When information is submitted

The question of *when* information is submitted was not a primary focus of the interviews perhaps because it was clear, albeit mostly implicit, that most information was submitted to or collected by ANSI standards committees prior to the public review period. The development of ANSI standards is similar to that of OSHA standards in this

respect. Although there are prominent examples of private standards undergoing multiple comment periods—e.g., the LEED v4 standard has undergone multiple comment periods—it seems that the extra comment periods were to comply with the due process requirements of the specific standards developer and possibly to appease stakeholders who would ultimately become the users of the standard. In other words, more emphasis on outside information collection could be related to concern about selling more copies of a standard and/or with being the dominant standard in a particular area. In the case of most (but not all) occupational safety and health standards, there are a limited number of *users*, firms that will adopt the standard.

Even if the timing of information collection in relation to the public comment period is similar between standards development under OSHA and ANSI standards development, who controls the agenda of an ANSI standard can vary greatly and depends on the type of standard-setting process. Most information collection in the development of ANSI occupational safety and health standards is performed by subcommittees composed of three or so people who are approved by the main committee. However, this process is typical of standards created through the committee method. For standards that are created using the canvass method, subcommittees are not used; instead, a standard is drafted by the secretariat and presented to a panel of affected stakeholders for review. Those that agree to participate can vote and the votes of this ad-hoc committee are tallied to reach consensus. Although this method was not a focus of this research, some of the respondents reflected on their experience participating in ANSI standards created using the canvass method. One respondent reported that this approach greatly constrained the

breadth of discussion because, instead of exchanging ideas about how to improve the safety of a certain product, limited discussion time was spent focusing on the draft that already existed. Another respondent similarly reported feeling that her extensive observational research on ways to improve the safety of a particular tool was disregarded in favor of focusing on the pre-existing draft. In total, three examples of standards developed through this method were described by respondents. In each of these cases, the secretariat was a trade association, not a professional society, and the content of the standard could be described as important for “business as usual” to continue. In other words, it appeared that industry agreement on the “common practice” regarding the tool or practice in question was especially important for legal defense for both manufacturers *and* a third party, not the employer.

One final difference in the timing of information collection in OSHA and ANSI standard-setting is that rules on *ex parte* communication prevent federal regulators from continuing to accept input on a proposed rule after the official comment period has closed. In contrast, discussion and debate about draft ANSI standards can continue until “the ink is dry,” making the comment period seem like more of a box-checking exercise rather than a tool for collecting information. However, the same could be said of the public comment period for OSHA standards in the sense that changes made as a result of the hearings and the public comment period are not typically re-noticed.

6.5.2 How information is submitted

The use of ANSI standards committees for open, informal discussion between groups about occupational hazards and their potential solutions is perhaps the most constructive

aspect of private standards development. When asked to describe the most effective forms of participation in private standards development, many respondents noted the value of informal dialogue for communicating about hazards and for identifying the obstacles to reaching consensus. One labor union respondent stated that people who worked both on OSHA and ANSI standards feel that the ANSI committee process provides a more “positive atmosphere” for discussion. She compared the two systems:

...everyone just feels like [work on ANSI standards] is a breath of fresh air because you can just sit there and you can think about stuff, and you don't have to worry about what you say, and you can brainstorm things and try out ideas and change positions and everything else...

Another union respondent strongly contended that face-to-face meetings, rather than conference calls or online communication, were essential to fostering consensus and understanding between committee members with opposing interests. Another commented on the importance of face-to-face meetings pointing out that for-profit interests “are [much] more leery to speak their minds on conference calls than they would face-to-face” because “they are not sure who is listening.” This observation reflects the fact that manufacturers or employers are sometimes aware of a serious hazard but do not fully understand its cause or scope enough to resolve it or want to find out if and how their competitors have dealt with the hazard. The committees can provide a forum for finding solutions leading one engineer to assert that the most important function of standards committees is to provide a place to exchange information.

The need for informal discussion to contextualize an injury problem and hash out policy solutions is not unique to ANSI standards. In-person communication is important to communicating the context of federal standards as well. When asked what the most

effective ways to participate in federal regulations were, some respondents explained that face-to-face meetings with agency policy staff helped to clarify the agency's "line of thinking" on proposed regulations. One respondent, a lawyer for a professional society, explained that without face-to-face meetings with federal policymakers, there are multiple opportunities for misinterpretation when submitting information in response to a proposed rule, first when the commenter reads the proposed rule and then when the agency reads the comment. Opportunities for asking questions can sometimes avoid these misinterpretations. Stakeholders may also bring experts to meet with agency staff to provide information to policymakers in a more informal setting that allows open dialogue. The OSHA hearing process for standards allows interested stakeholders to present their views and cross-examine each other. It also allows OSHA policymakers to ask for clarification about data and information presented. Labor unions and industry prioritize attendance at the hearings, in part to present their own views but also to make sure that they have the opportunity to hear information presented by industry. The hearings provide the opportunity to cross-examine presenters, which can prevent potentially incorrect or unsubstantiated information from entering the rulemaking record undisputed.

6.5.3 Summary

The majority of information collection occurs prior to the formal comment period in both the OSHA and ANSI system, but the way that information is communicated is less formal in the ANSI sector. The majority of discussions and debate on ANSI standards occur off the record, which, according to many respondents, greatly improves the quality

of discussion relative to the more formal and contentious OSHA process. Although labor union representatives who participate on ANSI committees generally have equal influence over the agenda as other committee members, this is not the case for standards created through the canvass method where discussion and debate can be constrained by the need to focus on the existing draft standard.

6.6 Committee Participation

As the research began to show the importance of committee participation for acquiring context and for submitting information to the ANSI standards process, interview questions began to focus more on this aspect of participation. Labor union respondents were asked why they do or do not participate in standards; committee chairs and SDO staff were asked why they do or do not invite them. This section first examines the current rates of participation by labor unions in ANSI committees and then discusses the factors that affect participation based on the interviews.

6.6.1 Rates of participation in ANSI committees

For available ANSI standards, the number of participants by category (business, OSHA, NIOSH, labor union, safety consultants, etc.) was tallied to show the composition of ANSI committees that creates occupational health and safety standards. Table 6-1 lists the name of the ANSI-accredited standards committee, the secretariat acronym, the secretariat type (trade association or professional society), the number of current ANSI standards, the year of the committee list (some were not the most recent versions) and the number of participants by type. The standards listed in the table provide a picture of

committee composition but do not cover all of the occupational safety and health standards created by non-government SDOs. They do not cover non-ANSI standards or ANSI standards that could not be obtained free of charge, and they do not cover ANSI standards created through the canvass method.

In ANSI standards, the committee roster is listed in the published standard. Copies of the standards were accessed in various ways. A few were requested directly from SDOs and were provided free of charge with the instruction that they not be distributed. Others were accessed through the website of PublicResource.org, a non-profit organization that recently collected and uploaded more than one thousand copyrighted codes and standards which are incorporated by reference in federal or state regulations. Finally, many which were not available from these two methods were accessed through a collection at the Library of Congress (LOC). The collection is not catalogued, so catalog searches for the standards by name would not reveal they are kept at LOC. The librarian there reported that it is mostly attorneys who request the standards and that no researcher had ever before come to collect stacks of them for review. Unfortunately, due to space considerations, older versions of the standards cannot be kept; only the most recent version is available in most cases.

The table shows that labor unions hold a position on 14 of the 32 committees for which a committee list was obtained. The committee with the greatest proportion of labor union representation is the A10 committee, which creates 49 safety standards for construction and demolition operations. Labor unions whose members are employed in high-risk industries construction jobs made a concerted effort to staff this large,

influential committee, and most have a position on the main committee. Most of the building and construction trades unions (14 of 16) have a seat on the main committee. The proportion of labor union membership on all other committees that create standards related to safety and health issues is lower. This may be due to time and resource constraints on labor union safety and health departments as will be discussed later in this section.

Not having a member on the main committee does not mean that labor unions do not participate in a particular standard. Labor unions might also serve on subcommittees, and subcommittee members can influence standards greatly in that they are responsible for the drafting of standard that is then presented to the main committee for review. But they do not get to vote on the final standard or on the committee agenda. Subcommittee member composition was not available for most standards.

Table 6-1. Member composition of ANSI occupational safety and health standards committees

Committee/Secretariat information					Number of participants by category																
Committee ¹	Secretariat acronym	Secretariat type ²	Number of current ANSI standards ³	Year of committee list	Total members	Business, trade associations ⁴	Business, individual firms ⁴	Insurance industry, trade associations	Insurance industry, individual firms	Professional societies	Safety consultants	OSHA/MSHA	CDC NIOSH	Federal, other	Labor unions	State/local govt, labor dept	State/local govt, other dept	University/Academic	Non-profit safety advocates	Other SDOs ⁵	Other, unknown ⁶
A10	ASSE	P	49	2007	74	13	18	2	2	7	9	1	1	2	14	1	0	1	1	0	2
A14	ALI	T	7	2009	25	8	2	1	0	1	6	1	0	1	3	0	0	0	0	2	0
A17	ASME	P	2	2007	32	0	15	0	0	0	9	0	0	0	1	2	4	0	1	1	0
A120	ASME	P	1	2011	32	1	16	0	0	0	4	0	0	0	3	1	0	0	0	1	0
A1264	ASSE	P	2	2007	26	4	5	0	4	2	5	1	0	1	2	0	0	1	0	1	0
A90	ASME	P	1	2003	12	1	9	0	0	1	1	0	0	0	0	0	0	0	0	0	0
A92	SIA	T	11	2011	67	1	58	0	0	1	3	1	0	0	0	0	1	0	2	0	0
B7	UAMA	T	8	2000	13	7	1	1	0	2	1	1	0	0	0	0	0	0	0	0	0
B11	BSI	O	26	2013	26	10	9	1	0	1	1	1	1	0	0	0	0	0	1	1	0
B20	ASME	P	1	2012	18	1	12	0	0	1	3	0	0	0	0	0	0	0	0	0	1
B30	ASME	P	30	2010	43	2	27	1	2	1	4	0	0	2	1	0		0	0	0	3
B56	ITSDF	T	13	2012	16	1	3	0	0	0	3	1	0	1	1	0	0	0	0	0	0
B65	NPES	T	6	2013	21	2	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
E1	PLASA	T	36	2013	86	0	79	0	0	1	1	0	0	0	2	0	0	2	0	0	1
I14	IWCA	T	1	2013	23	3	16	0	0	1	2	1	0	0	0	1	0	0	0	0	0
N13	HPS	P	20	2014	28	5	0	0	0	6	0	0	0	7	0	0	0	0	0	0	7
O1	WMMA	T	1	2013	20	6	7	0	0	1	0	1	1	0	0	0	0	0	0	1	3
R15	RIA	T	1	1999	33	2	19	0	1	1	0	0	0	2	1	0	0	2	0	5	0
S1	ASA	P	18	2013	17	1	7	0	0	4	0	1	0	4	0	0	0	0	0	0	0
S2	ASA	P	28	2013	40	3	18	0	0	2	0	0	1	8	0	0	0	3	0	0	5
S3	ASA	P	25	2013	26	2	8	0	0	6	0	0	1	7	0	0	0	1	1	0	0
S12	ASA	P	47	2013	41	7	12	0	0	8	1	0	1	9	0	0	0	1	1	0	1

Table 6-1. (continued)

Committee/Secretariat information					Number of participants by category																
Committee ¹	Secretariat acronym	Secretariat type ²	Number of current ANSI standards ³	Year of committee list	Total members	Business – trade associations ⁴	Business, individual firms ⁴	Insurance industry, trade associations	Insurance industry, individual firms	Professional societies	Safety consultants	OSHA/MSHA	CDC NIOSH	Federal, other	Labor unions	State/local govt, labor depts	State/local govt, other depts	University/Academic	Non-profit safety advocates	Other SDOs ⁵	Other, unknown ⁶
Z9	ASSE	P	10	2007	26	4	0	1	0	3	0	1	1	0	0	0	0	0	0	1	15
Z10	ASSE	P	1	2005	44	5	14	0	1	4	0	1	1	3	6	0	3	3	3	0	0
Z49	AWS	T	1	2012	20	4	0	0	0	6	0	1	1	3	2	0	0	1	0	2	0
Z87	ISEA	T	1	2003	30	2	2	1	0	11	0	1	1	3	1	0	0	1	1	3	3
Z117	ASSE	P	1	2009	34	7	10	1	1	3	6	1	1	1	1	0	1	0	0	1	0
Z133	ISA	T	1	2006	40	1	17	1	0	5	0	1	0	2	1	0	0	0	0	1	11
Z136	LIA	T	9	2013	60	3	8	0	0	12	1	1	0	12	0	0	0	3	0	2	18
Z244	ASSE	P	1	2003	26	8	12	0	0	2	1	1	0	0	2	0	0	0	0	0	0
Z245	EIA	T	9	2013	23	3	13	0	2	0	2	0	1	0	0	1	0	0	0	0	1
Z359	ASSE	P	7	2007	37	3	16	0	3	3	6	1	0	3	0	0	0	0	1	0	1
Z535	NEMA	T	6	2007	36	8	15	0	0	6	6	0	0	0	0	0	0	0	0	1	0

1. ANSI accredited standards committees are identified by a letter/number combination

2. P = professional society; T = trade association; O = other

3. Does not include standards that have been withdrawn, standards that are under development, or other non-ANSI standards, recommended practices, technical reports, and other documents.

4. Includes manufacturers, employers (users), distributors, installers, engineers, architects, and other businesses which are not classified as insurance companies or safety consulting companies.

5. Includes members listed as being affiliated with another ANSI-accredited standards committee or other an organization with primary purpose of standards creation (e.g., ASTM International)

6. Includes individual members without affiliation and organizations with other or unknown category.

6.6.2 Determinants of participation on standards committees

The relatively low number of labor union representatives on ANSI standards committees, as shown in Table 6-1, is interesting but not particularly meaningful without knowing why more do not participate. Hamilton (1978) stated that labor unions did not want to give legitimacy to private standards by participating on committees. This concept was probed directly and indirectly throughout the interviews. Additionally, labor unions respondents were asked how they viewed the utility of ANSI standards, whether they perceived their participation as effective, and why they would want to participate on committees.

The factors that influence labor union participation private standards committees fall into three categories: 1) the perceived effectiveness of participation, 2) the perceived effect of the standard, and 3) the availability of resources for participation.

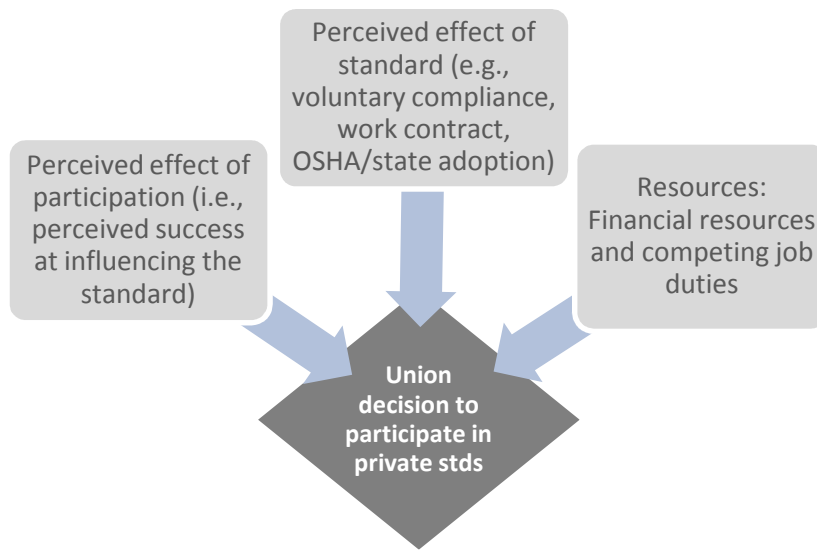


Figure 6-1. Factors influencing the decision of labor unions to participate on private standards committees

6.6.2.1 *Labor unions' view and use of non-government standards*

Labor union respondents who participated in the study did not, in general, hold a negative view of non-government standards or the ANSI process. The interviews did uncover a few reports of union representatives discontinuing their participation in a private standard effort due to the perception that they did not want their name affixed to something that they believed was less than ideal. While respondents certainly voiced a strong preference for OSHA standards over ANSI standards due to the enforceability of OSHA standards, labor unions understand both the importance of private standards and the value of participation. Several respondents even expressed their appreciation for the fairness of the ANSI process and the more informal level of discussion that occurs in committee meetings relative to OSHA hearings. This is not to say that the interview data was devoid of complaints about the quality of private standards or the process by which

they were created. However, these complaints mostly pertained to standards developed through the canvass method and/or developed by small trade associations. These standards tended to be strongly tied to a specific tool or work practice that was crucial to profitability or avoiding legal liability. In general, labor union representatives who had participated in ANSI committees expressed dedication to their work in the committees and described actions, such as voluntarily taking time to help respond to comments and appeals, which reflected this dedication.

One labor union respondent with several decades of experience working in occupational safety and health standards (OSHA, ANSI, and other private standards), when asked to comment on Hamilton's claim about labor unions avoiding private standards committees, stated that she was aware some people felt this way—that labor unions should “stay out of the committees because industry is just gonna do what they want anyways”—but that she thought this was changing. Another contextualized this statement saying that labor unions do not oppose ANSI standards but do strongly prefer enforceable OSHA standards. Another labor union respondent stated that her union had participated in private standards for several decades, but also said that the situation is different now and that it is “difficult if not impossible” to pass an OSHA standard now. She contrasted this to the ANSI process which still “moves forward and keeps up with the changing technologies.” Another echoed this sentiment saying, “I don't think we have been as successful with OSHA as we have been with national consensus standards.” If there is, in fact, a shift occurring in labor unions' perception of the utility of private standards, the problem of having no other viable policy alternatives might be partly to

credit. She wasn't the only person to voice recognition of this change. Other labor unions voiced the same concern; one stated:

If there was an effective and functioning federal rulemaking apparatus that was actually putting out standards, I think would be spending a lot more time on that and less time on voluntary standards, no question about that.

Another put it more bluntly saying that the federal "standard-setting process in the United States is dead" and that the only alternative is ANSI standards.

Still, even if labor unions verbally acknowledge the futility of the federal process for creating occupational safety and health standards, their organized efforts focused on the federal process still far outweigh any efforts focused on participation in private standards, ANSI or other. The AFL-CIO does not routinely organize unions to comment on private standards as they do on OSHA and MSHA standards, and as discussed earlier, labor unions, unless directly participating on a committee, do not routinely monitor non-government SDOs the way they do federal agencies.

Although some labor union representatives acknowledged their lack of power over the final outcome of the ANSI standards process as disappointing—ANSI standards are ultimately decided by majority vote rather than a consensus of available evidence as it is in the OSHA standard-setting system—the interview respondents seemed to accept this possibility as an unfortunate part of the process rather than a reason not to participate at all. The decision to incorporate measures into an ANSI standard which increase the costs of their operations is not one that is taken lightly by industry and labor unions seem to understand the need to find compromise on these issues. One person explained:

...I don't always agree [with a final standard], but I do understand that... when you try to develop a safety standard that's going to [protect] less than 1% of the working population, but because of the regulatory impact that it would have in different industries on different employers, it's gonna increase cost for 40% of the industry, that's a tough argument to win.

Despite a strong preference for mandatory OSHA standards, labor unions are aware of the influence of private standards in shaping OSHA standards and in providing a basis for general duty clause violations. When asked why they feel it is important to participate in private standards, labor unions' responses fell into three categories: the expectation of later OSHA adoption, use in general duty clause violations under OSHA, and the expectation of voluntary adoption of the standards by employers. One respondent explained that, while unions ultimately want OSHA standards, ANSI standards "are a very valuable resources especially with the bigger contractors." Another remarked that if there was more evidence of voluntary adoption of ANSI standards by employers, it could provide more incentive for labor unions to participate.

In addition to the effect of participation on the outcome of a standard, the question of whether private standards, given their "voluntary" status, have any real effect on worker health and safety is also a top concern of labor union SHPs who work on standards committees. It makes sense to question this given the extensive time and effort invested into the development of private standards. Standards can be effective in more than one way. They might form the basis for a government standard or they can be incorporated by reference in whole or in part into a government standard, cited in general duty clause violations, cited or referenced in settlement agreements, or followed voluntarily. Respondents were generally aware of the importance of standards for later adoption or

shaping of government standards, but perceptions varied regarding voluntary compliance. Some thought that large employers would voluntarily comply with ANSI standards while some were more skeptical of this possibility. Either way, there is a lack of consensus as to whether voluntary compliance with non-government standards is likely, which reflects the dearth of empirical evidence regarding compliance with non-government standards. The legal use of non-government occupational safety and health standards described in Chapter 4 suggests that at least some of the standards become the norm within industry and, therefore, hold legal ramifications for non-compliance. But beyond these limited examples, the extent of compliance with non-government OSH standards is not known.

Labor unions and other worker safety advocates even encourage OSHA to consider some private standards as solutions to safety and health problems. In a 2010 meeting held by OSHA to gather information on policy problems and suggestions from stakeholders, a representative of the Laborers' Health and Safety Fund of North America urged OSHA policymakers to move forward on a hearing protection standard for construction workers (construction workers are excluded in the current OSHA standard for hearing protection). As an example of the feasibility of creating such a standard, the commenter pointed out that an ANSI standard to prevent hearing loss in construction, ANSI A10.47 was initiated and completed since OSHA began their efforts. Later in the hearing, Peg Seminario, director of health and safety at the AFL-CIO, speaking about the importance of developing a standard for workplaces to have a health and safety program in place, advised OSHA policymakers to look at the existing ANSI Z10 standard, among other things, to form the basis of an OSHA standard. (U.S. DOL, 2010) One labor union

interview respondent talking about her efforts in ANSI standards development said that cooperation on ANSI standards might be a good way to *embarrass* OSHA by showing the agency that a standard can be created and that unions and industry are able to work together to that end. These points illustrate the value of ANSI standards for demonstrating to OSHA that a standard is both technically feasible and that that agreement between unions and industry on a standard is possible.

Regarding the use of standards, unions can and do specify compliance with ANSI standards in the safety and health clauses of bargaining agreements. One labor union respondent explained that it makes more sense to specify compliance with an ANSI standard rather than draft multiple pages of requirements aimed at preventing a certain injury or illness. In addition to citing private standards in bargaining agreements, labor unions might use standards in training activities to illustrate recognized best practices for a certain activity because private standards often have more detail and/or are more up-to-date than federal and state standards. Unions might also engage in activities that could be described as enforcement of private standards, including informing employers of the standards and/or pointing out how accidents might have been avoided through compliance with the standards.

6.6.2.2 *Resources and opportunity cost*

Resources, both time and funding, affect the decision of labor union SHPs to participate in private standards as well as *how* they can participate once they have decided to become involved. This section explains how resources affect the decision to

participate in private standards development. Although resource availability also affects the decisions of labor unions to participate in OSHA standards development, labor union participation in federal standards is more institutionalized and systematic than participation in private standards. Basically, the decision to participate in OSHA standards is less sensitive to fluctuations in availability of time and resources.

Availability of financial resources for travel to committee meetings is an important obstacle to participation in private standards for labor unions and influenced their decision to accept committee invitations and/or to pursue participation in standards which were related to their members. Several interview respondents cited this reason for lack of participation by labor unions without being specifically probed for this response. One SDO employee explained:

I think... the biggest reason [labor unions] don't participate is they don't have the financial [ability] to send people to meetings. Even unions who participate actively in ANSI standards are very reticent to send their representatives on travel.

This person went on to explain that this financial barrier of participation applied even to large unions, saying that, due to the vast number of ANSI committees that apply to safety and health, even large unions “must choose just a few that are most important.” One labor union respondent, a worker who was also an officer with her union local, paid for travel costs to attend the meetings of a standards committee out-of-pocket saying that this was “just a lot easier” than asking the union. While the respondent believed that her union was supportive of her participation in ANSI standards, she also anticipated that the lengthy time frame of ANSI standards development (several years to develop a new

standard or even to revise an existing one) and the need to attend multiple meetings over that time would eventually cause that support to wane.

There may also be fees associated with participation in private standards. While Section 1.1 of the *ANSI Essential Requirements* specifies “There shall be no undue financial barriers to participation,” fees for participation in committees are common. Information about the typical fee for committee participation or how often such fees are required was not collected as part of this research, but the fees can be important obstacles to participation for labor unions. One person noted these fees saying that it was one of many factors which caused her to decide not to bother with requesting membership on a committee that she felt was relevant to the members of her union. Some standards developers are willing to waive these fees for groups that request it, but the participation effects of these fees and/or the waiver process are important areas for future research.

Besides the direct financial barriers of travel costs and committee fees, the issue of *time* is another important factor affecting the decision to participate in private standards. Labor union SHPs perform a number of tasks which may include developing and providing training to workers, investigating workplace accidents, participating in OSHA standards, participating in private standards, drafting health and safety clauses for inclusion in bargaining agreements, and sometimes even conducting scholarly research and/or attending and organizing conferences on health and safety. Given these competing priorities, labor union SHPs tend to view time spent participating on private standards committees in terms of the opportunity cost. The decision to participate is based, in part, on whether they expect to have more positive effect on the safety and

health of workers by spending time training them to avoid a hazard rather than participating in the development of a standard which may or may not prevent the hazard and may or may not be voluntarily adopted by employers in the industry. This concept reflects the “hierarchy of controls” as it applies to the most efficient means of reducing occupational hazards. The hierarchy of controls basically orders hazard reduction measures in order from most to least effective:

- Elimination of the hazard (most effective)
- Substitution
- Engineering controls, e.g., machine guards
- Administrative controls, e.g., training
- Personal protective equipment, e.g., helmet, respirators (least effective)

If a union SHP perceives that a standards development effort is not likely to eliminate a hazard, substitute a safer practice or substance, or prescribe effective engineering controls, he or she might perceive that the hazard can be controlled most effectively through training and emphasis on personal protection. This choice of controls highlights the opportunity cost that is faced by unions when deciding how to allocate time and funding. This reality even came to light in the interviews conducted for this research when two interviews had to be rescheduled due to accident investigations, one of which involved a fatality.

The time spent working on a private standards committee can vary greatly depending on requirements of the committee, whether a standard is being created for the first time or just revised, and how a particular participant views the obligations of participation. One labor union SHP explained her decision not to accept an invitation to participate on an

ANSI standards committee that was being formed to deal with an occupational safety hazard:

[E]ven though I have learned about [the topic] over the years being involved in the OSHA workgroup to develop a regulatory standard, [the subject area] is not my primary area of expertise. .. I [would] have wanted to be able to contribute in a very meaningful way obviously, and so for the reason of the time [spent working on the standard] but also... the time coming up to speed with the expertise that they would've needed... I just knew that I might not have been able to give them the depth of time that they needed... I didn't want is to show up at the meeting twice a year but not really be able to fully participate and add something.

In general, the issue of being stretched too thin will affect the ability of labor union representatives to participate on private standards. One labor union SHP who had once participated on an ANSI committee that was developing the first version of a standard claimed, “[I]t would be impossible for me to [participate] on two ANSI standards at the same time given all the other things I have to do.” This could be due to the different nature of participation in ANSI standards and OSHA standards. If committee participation is necessary to gain context and to convince members of the committee of your perspective, the workload associated with this endeavor appears to be much greater than commenting on an OSHA standard. Many respondents described work they had done in the committee which included serving on subcommittees that met frequently to discuss how to draft a standard, reviewing research and technical documents, and even helping to respond to comments once the standard is proposed. One respondent explained:

In the VCS committee, members do more of the OSHA work... so you are essentially acting like the OSHA staff who writes the proposed language of a standard. Then you argue with the other committee members on how it should be written, and about the language/provisions that should be in there... You are actually doing the real work, you are not commenting on someone else's work.

Moreover, the work of a standards committee does not end when the standard is final. If there is an appeal, committee members may need to help respond to criticisms of the standard during the appeal. If there are requests for interpretations of the standard, committee members also perform this task. Given the need to divide committee workload, many committees now require minimum participation such as meeting attendance and voting to retain a position on the committee. This has sometimes resulted in union participants (and others, including OSHA participants) being compelled to forfeit their committee seats.

Given the potentially significant and somewhat unpredictable time and resource commitment, labor union SHPs might find it difficult to justify participation in private standards to their management. Of course, the time and resource commitment involved in participation in federal or state standard-setting is not necessarily insignificant even if stakeholders do not participate heavily in the design and drafting efforts. Indeed, labor unions might encounter obstacles to participation in federal efforts that involve a high time commitment such as negotiated rulemaking efforts or participation on advisory committees.

It is important to point out that not all committees require in-person attendance. Furthermore, some labor union committee members may choose not to attend meetings and may even choose not to vote or comment on standards created by the committee which are not relevant to their members or for which they do not have specialized expertise. In addition, as one respondent pointed out, many committees are now holding web meetings in lieu of face-to-face meetings. The Society for Automotive Engineers

(SAE) has even issued a best practice guide for virtual meetings. But a shift toward virtual communication could conflict with the values of in-person meetings discussed earlier.

6.6.2.3 Perceived effectiveness of efforts

The perceived effectiveness of participation also influences the decision of labor union SHPs to participate in private standards efforts. Labor union respondents' perceptions of the effectiveness of their participation in ANSI standards varied. Basically, they had different levels of tolerance for being consistently "outvoted" on the committees. Improving safety through participation on a standards committee begins with encouraging a committee to begin standards development on a particular issue at all. Sometimes, this is done through a vote of all committee members on whether the committee will take up the standard. Once a committee has commenced work on a particular health or safety standard, then the devil is in the details, so to speak. Whether or not a standard is actually effective may depend on minor details. Sometimes, details which will cost employers or manufacturers a lot to implement are ultimately left out so that a standard can garner the votes it needs to pass. Some union respondents viewed these omissions as a reason not to spend time and resources on participation. Respondents who reported having left standards committees all cited reasons related to either not being able to sway the committee or not wanting their name on the committee list for a standard that they did not fully support. Others accepted the reality of losing many battles but felt that they were still able to have influence over the standard and their

presence was still important to shaping the direction of health and safety policy in a particular industry.

6.6.3 Summary

The choice of unions to participate in private standards is influenced primarily by three factors: the view of the utility/effectiveness of the standards, time and financial resources, and the perceived effectiveness of participation. With respect to the barrier of time and financial resources, one respondent explained that the nature of participation in private standards is changing. More standards developers now hold web meetings for committee meetings and documents can be shared electronically. These changes will likely make it easier for labor unions and other small groups (e.g., consumer groups) to participate. However, the respondent also noted that many labor unions might not be aware of this change and would not seek out opportunities to participate for that reason.

Data from the interviews strongly suggest that the lack of union participation in ANSI committees shown in Table 6-1 is not due to a general opposition of these standards by labor unions, as was previously suggested by Hamilton (1978), but is more a result of resource constraints combined with the need to weigh the benefits of participation in standard-setting against other possibly more valuable means of protecting the health and safety of workers. Related to this, the lack of federal standards development in recent years has reduced the opportunity cost of participating in ANSI standards, which could explain, in part, why labor union participation is not lower.

6.7 Accountability Mechanisms

This section discusses the effectiveness of accountability mechanisms that exist in the OSHA and ANSI systems as it pertains to the ability of labor unions to influence the standards. While this topic was not a primary focus of interviews, several concepts emerged that merit discussion. First, the section discusses the effectiveness of the federal appeals process and the ANSI appeals process. The section also explores other concepts related to accountability for collecting and considering information that emerged from the interviews. These include incentives to invite labor unions to participate in the development of private standards, financial constraints on standards developers, the power of information, and the effects of professionalism.

6.7.1 Perceived effectiveness of appeals

In the federal system, the Administrative Procedure Act (APA) provides a mechanism for appeals of standards as do various agency authorizing statutes. In the case of occupational safety and health standards, an OSHA or MSHA standard can be appealed through the courts. Under the ANSI process, a decision can be appealed in a timely manner: first, through the standards developer, then through the ANSI Board of Standards Review (BSR) or the ANSI Executive Standards Council (accreditation and procedural issues), and finally through the ANSI Appeals Board.

Regarding appeals of OSHA and MSHA standards, the interviews suggested that labor unions' perception of the effectiveness of using petitions and later judicial review to hold agencies accountable is changing. One method historically used by labor unions to

compel OSHA to take action was a petition followed by a lawsuit if OSHA failed to take action on an important health or safety problem. However, the ruling in *UAW vs. Chao* in 2004 has altered the way that unions perceive the effectiveness of petitions for compelling regulatory action by OSHA. In the case of *UAW vs. Chao*, the United Auto Workers and the United Steelworkers claimed that OSHA had a statutory obligation to regulate exposure to metalworking fluids (MWFs) and that its decision to discontinue regulatory efforts in that area was arbitrary and capricious. An advisory committee formed by OSHA in 1997 to assist with the development of a rule on MWFs voted 11-4 in favor of creating a standard and issued recommendations in 1999 on which provisions should be included in a standard. When OSHA did not take further action, the UAW filed a petition and then a lawsuit in the U.S. Court of Appeals. In its defense, OSHA cited “limited resources” as the reason for not moving forward on the MWFs standard and stated that it had more important priorities for chemical exposure standards including hexavalent chromium, crystalline silica, and beryllium. The court ruled in OSHA’s favor stating that “the Secretary has broad discretion to set the regulatory agenda of the agency, and the decision to direct OSHA's scant resources elsewhere was neither arbitrary nor capricious.” (*UAW vs. Chao*, 2004). Several labor union respondents mentioned this example and indicated that it has changed how they see their ability to influence OSHA and MSHA standards using the federal appeals process, which had been viewed as an effective strategy up to this point. Unions viewed the ruling as a crucial setback because the reasoning provided by OSHA for not moving forward—a lack of resources—could be

applied in any case. How and whether this setback will affect labor unions' use of federal appeals in the long-term remains to be seen.

The interviews indicated that labor unions and others also do not perceive the ANSI appeals system to be an effective tool for compelling ANSI committees to start work on a new standard or strengthen an existing one. In general, appealing a standard because it was not protective enough would be futile under the ANSI system. Depending on the rules of the specific standards developer, appeals at the SDO level may include appeals of technical evidence, but the *ANSI Essential Requirements* do not prescribe any specific appeals requirements, just that an appeal procedure is available. But at the ANSI BSR level, appeals are strictly procedural. If a person was provided the opportunity to comment and the standards developer responded to show that their comment was considered, an appellant has no recourse simply because the result was not to their liking.

Even if the ANSI appeals system could be used for technical appeals, the interviews suggested that it might not be used by labor unions for other reasons. Appeals of ANSI standards by labor unions are extremely rare, which is probably due in part to resource considerations—spending time on such an activity might be seen as an inappropriate use of time and effort. But it is probably more due to the understanding that the use of the appeals mechanism to influence standards would have an overall negative impact on the ability of union committee members to be effective participants in the long term. The concepts of cooperation and compromise were raised directly and indirectly throughout the interviews regarding how one might effectively influence standards. Being cooperative and willing to compromise and making use of the established process was

seen as key to being able to persuade committee members. One labor union respondent noted that people who get angry and make demands in meetings do not ultimately have much influence. Other statements from the interviews underscored the understanding, on the part of unions, that ANSI standards will be created with or without them present. The standards are, as one engineer described them, “agreements between employers and manufacturers on how to use equipment.” Effective participation is thus framed in this context, through providing information rather than making demands on voluntary agreements between third parties.

6.7.2 Resource considerations in standard-setting

One notable aspect of accountability that emerged from the interview data pertained to the way that financial resources may affect the ability of federal agencies and non-government SDOs to develop standards. The costs associated with developing ANSI standards include hosting meetings, publishing standards, responding to comments, recruiting committee members, as well as a slew of other administrative duties related to sponsoring standards development. Two SDO respondents remarked specifically on the costs of standards development and both indicated that revenues from sales of standards were crucial to recouping these costs. Standards development can be especially costly if there are appeals of a standard; appeals require staff resources to address and can hold up the sale of the final standard.

Table 6-2 shows revenues and expenses related to standards development for seven of the standards developers from Table 4-2. The information in the table is three-year averages based on the organizations’ 990s from the years 2009, 2010, and 2011.

Information for all of the organizations listed in Table 4-2 was queried in the GuideStar database; only seven reported revenues and expenses related specifically to standards development. While these data could not be considered representative of all standards developers, it does provide examples for consideration and could suggest that only the largest standards developers with widely-adopted standards are likely to cover costs.

Table 6-2. Revenues and expenses of select standards developers, 2009-2011 annual averages

Standards Developer	Average Annual Revenues ¹	Average Annual Expenses ²	Average Annual Sales of Stds ³	Average Annual Expenses to Develop Stds ⁴	3-year Average Net From Stds
International Staple, Nail and Tool Assoc. (ISANTA)	\$432,726	\$425,543	\$0	\$103,563	(\$103,563)
Conveyor Equipment Manufacturers Assoc. (CEMA)	\$678,516	\$652,599	\$124,090	\$52,575	\$71,515
American Society of Agricultural and Biological Engineers (ASABE)	\$2,234,059	\$2,108,540	\$207,796	\$460,747	(\$252,951)
Acoustical Society of America (ASA)	\$5,068,293	\$4,154,022	\$353,298	\$412,442	(\$59,144)
American Welding Society (AWS)	\$26,506,438	\$18,721,779	\$4,479,493	\$1,745,714	\$2,733,779
American Society of Mechanical Engineers (ASME)	\$90,631,652	\$85,300,519	\$40,629,428	\$30,253,370	\$10,376,058
Institute of Electrical and Electronic Engineers (IEEE)	\$350,316,416	\$342,626,050	\$56,287,599	\$18,612,287	\$37,675,312

1. Revenues are the three-year average of total revenues reported on line 12 of the 990 form.

2. Expenses are the three-year average of total expenses reported on line 18 of the 990 form.

3. Revenues from standards from Part III (Statement of Program Service Accomplishments), line 4 of 990 form.

4. Expenses from standards development came from Part III (Statement of Program Service Accomplishments), line 4 of the 990 form.

Source: Revenue and expense information from GuideStar (www.guidestar.com)

The table shows that the average net revenue from standards can vary widely, and expenses to develop standards can represent a significant portion of an organization's overall budget. When the base of customers who might purchase the standards is very small, revenues from the sale of standards might fall far below expenses. Take, for example, the standards developed by ISANTA for the safety of air-actuated nailers and staplers (ANSI SNT-101, Safety Requirements for Portable, Compressed-Air-Actuated Fastener Driving Tools), which was most recently revised in 2002. There are approximately 30 companies that manufacture some variety of nailer or stapler. Even at a price of \$100 per standard, ISANTA would only recoup approximately \$3,000 on each revision of the standard, assuming each firm bought a copy. This does not come close to covering the costs of development reported by ISANTA on its 990.

The cost of standards development can affect the willingness of an organization to pursue or continue the development of certain standards, especially controversial ones. This sensitivity to costs is illustrated in the case of the Z365 standard, *Management of Work-Related Musculoskeletal Disorders*. The ANSI Accredited Standards Committee Z365 was formed in 1991 with the goal of developing a standard to address work-related musculoskeletal injuries from repetitive and/or strenuous work. The National Safety Council (NSC), which had served as secretariat for many private standards dating back to some of the first standards created under the American Engineering Standards Committee (AESC), was the secretariat for the controversial standard. The committee completed a draft standard in December 2002 which was appealed by several large industry groups including the National Coalition on Ergonomics and the U.S. Chamber of Commerce. In

addition to appeals of the standard, which were based on claims that the NSC did not provide due process and did not have a balanced committee, there was an appeal of NSC's accreditation and position as secretariat of the committee. Following the hearing by the ANSI Executive Standards Council (ExSC) of the appeals on NSC's role as secretariat, the ExSC set a number of requirements that the NSC would have to meet before it continued work on the standard. Among these was a requirement to schedule hearings for all of the appeals of the draft standard within 60 days, a feat which the NSC claimed was not possible given the need to assemble a panel of three experts that all parties could agree on in the allotted time frame. In a letter to ANSI, the NSC claimed to have spent \$531,000 as secretariat of the Z365 committee over 12 years and that it was not in line with its mission to utilize such a large share of resources on the project. Then president of the NSC, Alan McMillan, explained in the letter that the costs of being a secretariat had risen while posting copies of standards online makes it harder to recover costs. (Nash, 2003) The NSC ultimately surrendered its role as secretariat. No other organization was willing to take over. One of the respondents in the present study had been a committee member on the Z365 committee. When she spoke of it, I asked, "Didn't the NSC give up their role as secretariat?" She responded with a laugh, "Yep! That was their *last* one." The NSC is no longer an ANSI-accredited standards developer.

Besides the actual costs of standards development, standards developers are concerned that they may become the target of lawsuits for developing standards that affect legal liability of firms in the industry. In at least one case, a non-government SDO was defendant in a lawsuit related to standards that it developed. In 2004, the

International Brominated Solvents Association (IBSA), the National Mining Association (NMA), and others alleged that the American Conference of Governmental Industrial Hygienists (ACGIH) engaged in deceptive trade practices in violation of Georgia Uniform Deceptive Trade Practices Act (UDTPA). The ACGIH is a non-profit organization that is most widely known for its work developing Threshold Limit Value (TLVs), which are values expressed as milligrams (mg) per cubic meter of air (mg/m³) that denote a level of air concentration that workers can be exposed to for a typical workweek for multiple years without experiencing adverse health effects.¹⁴ The plaintiffs wanted the ACGIH to discontinue its development of TLVs for four substances—nPB, copper, silica, and diesel particulate matter (DPM)—contending that doing so “defame[s] the products and facilities of IBSA’s member companies”, “tortuously interfere[s] with the contractual and customer relationships of IBSA’s member companies,” and “manipulates markets.” (IBSA complaint, 2004) The original complaint also alleged that the Department of Labor (DOL) acted in violation of the Federal Advisory Committee Act (FACA) and the Administrative Procedure Act (APA) to adopt the TLVs as permissible exposure limits (PELs). In 2008, the U.S. District Court ruled in favor of ACGIH (and the DOL) stating that it “remains unconvinced” that the UDTPA “should be able to stifle ACGIH’s dissemination of its opinions” on safe exposure levels. The Court noted that the UDTPA was designed to protect businesses from deceptive trade practices and that, since ACGIH did not sell or make any money from products similar to those of

¹⁴ The ACGIH is not an ANSI-accredited standards developer. Unlike consensus standards, its work is not technically based on a vote but a consensus of scientific opinion. The committees of the ACGIH create TLVs based on current science, which may be limited. They are not recommendations about what exposure should be, but rather values of what the current science shows is safe.

the plaintiffs, and so could not enjoin trade practices. [625 F.Supp.2d 1310(2008)] Still, the four-year battle was costly for the ACGIH, which requested donations to support its legal defense. Even though the ACGIH successfully defended itself, the interviews revealed that there is still “chatter” about the issue and that SDOs decisions about whether to engage in the creation of certain standards might be affected by a fear of legal retaliation by the affected industry.

Of course, non-government SDOs are not unique in facing financial constraints related to standards development. OSHA’s budget for developing safety and health standards averaged \$18.7 million per year over the years 2009-2011, comparable to the annual standard-setting budget of the IEEE. (Budget of the U.S. Government, Appendix, Department of Labor, 2011-2013; DOL budgets available at <http://www.dol.gov/dol/aboutdol/>) During those years, five standards were finalized (i.e., final rules promulgated) per year, on average. OSHA must contend with appeals on nearly all of its large standards, not to mention intense scrutiny at every stage of the standard-setting process. Responses to questions posed by OMB review, response to comments submitted after the NPRM, plus organizing and tracking the record all require resources.

6.7.3 Other sources of accountability

Several other concepts emerged from the interviews which related to the accountability of non-government SDOs to both collect information from unions and consider that information. These ideas are exploratory in the sense that they emerged

newly from the interviews conducted in this study, but may provide fruitful areas for future research.

6.7.3.1 The power of information

Even if labor unions will never have enough votes on a committee to dominate employer and manufacturer interests, they can still have influence over a standard based on their unique knowledge of work practices. Information about why an accident occurred is valuable, and employers and manufacturers appreciate their input. In reference to the content of a particular ANSI standard, one respondent stated, “Every single provision you see in [that standard] is because somebody died.” The meaning of her statement, though clearly overstated based on the broader context of the discussion, was that employers and manufacturers, the primary for-profit interests involved in the development of private occupational safety and health standards, want to avoid worker fatalities because they can result in lawsuits or can negatively impact the reputation of a company. Since technology, work practices, and production practices are constantly changing, employers and manufacturers continually face new problems related to occupational injury and illness. The committees, above all, are places to exchange information. From a firm’s perspective, membership on a committee is crucial to staying abreast of changes in the industry and in the practices of its competitors. To the extent that labor unions have information which can help to prevent injury, illness, and death, for-profit interests will be open to their input.

6.7.3.2 *Incentives to invite labor unions*

Given the importance of committee participation for exchanging information, respondents were asked to talk about why labor unions might be invited to serve on committees. Two concepts, in particular, stood out as being important incentives for inviting labor unions to participate. First, the *ANSI Essential Requirements* require committees to be balanced. Balance means that not more than one-third of a committee that sets a safety-related standard is composed of any single interest. The three basic categories are producer, user, and general interest. Although the *ANSI Essential Requirements* suggest including a representative of labor on the committee when the end user of a standard is the worker, the composition of committees in Table 6-1 shows that they are not always included. The interviews suggested that it might be nearly impossible to create some standards if the requirement were enforced. When asked about the feasibility of a strictly enforced requirement to have union participation on every safety and health standard, one non-union respondent replied that this “would not be possible” and explained that efforts to recruit unions members are often unsuccessful. While unions might decline invitations to serve on committees, the balance requirements create an incentive to invite them, if for no other reason, because it can be challenging to fill the committee seats in a balanced way. Two chairs of standards committees talked about the process of “staffing” the committee. One, a former employer, noted that it is easy to get manufacturers to participate in a committee, but that is only one-third (according to ANSI balance requirements) and it is still necessary to fill the rest of the seats. Besides for-profit interests, it can be difficult to find people who have enough

knowledge of both the subject matter and the process to participate. Safety consultants fill some of the empty seats, and, in some cases, a state or federal OSHA employee may sit on a committee, but one person reported that state and federal regulators tend to be absent and, in some cases, have been removed from committees for lack of participation.

A second incentive for standards developers to invite labor unions could be their own reputation. Although the mechanism for how a lack of labor representation on a standards committee could affect the reputation of an SDO was not entirely clear from the interviews, it seems that standards developers would not want to be seen as excluding labor unions from their standards development activities. Perhaps this is due to the fact that any complaints that an important perspective was not considered could draw unwanted attention from ANSI. Furthermore, battles in the committees might exacerbate tension between unions and employers in an industry.

Finally, there appears to be some pressure from the committee members, perhaps those who anticipate later relying on the standards for legal defense, to include labor unions. A respondent who regularly gives presentations of new ANSI standards said that the question of “who is on the committee” is common. A Virginia trial attorney who was interviewed about the use of standards in injury lawsuits stated, without prompting, “If I look at a [private] standard [used by the defense] and there was no representative from OSHA, no union, etc. but only industry reps, I would call that into question.... You can impugn the integrity of the code if you know what you’re doing.” If the credibility of a standard in a court of law is based on the membership, the users of a standard have an

interest in following standards developed by a committee with a broad representation of affected interests.

6.7.3.3 *Professional accountability, personal relationships, and the safe haven theory*

Some of the concepts that pertained to how labor unions, or anyone on a private standards committee, might have influence were unrelated to procedural requirements or legal outcomes. When asked about strategies to influence private standards, some respondents, labor unions and others, felt that their success at influencing standards committees was derived, in part, from sharing common academic or professional backgrounds and/or from developing solid personal relationships with other committee members. While the topics of personal relationships and shared experiences and how they affect the ability of a group to reach consensus are best left to future studies, what was most interesting about these reports for the present study was that, in cases where respondents reported these factors of influence, they also tended to describe situations where representatives of the for-profit interests were likely to support standards that might be costly to their employers. In other words, it seems possible that representatives of employers, at least in some cases, are prone to act outside of the interests of their principals and support a level of stringency in safety standards that would not necessarily be supported by their employer if they had more information on the alternatives. One person used the term “safe haven” to refer to a committee she served on and stated that the representatives of the employers might want to do something to resolve a particular safety hazard, but they need the support of an ANSI standard to convince their

management that a change needed to happen. This theme of industry SHPs welcoming the development of an ANSI standard to support their recommendations for improving safety in their company was also apparent in comments submitted to an issue of *The Compass* regarding the recently published Z10 standard.

The tendency of committee members to agree with each other could be due, in part, to having common professional backgrounds. One person described committee meetings saying that “everyone leaves their hat at the door” and that they are not representatives of their employers, but rather “just people who are interested in improving safety.” Along these lines, one respondent was adamant that forming relationships with each other was crucial to creating quality standards and that, if people do not know each other personally, they are more likely to react negatively to another person’s label—union, government, management, and so on. Of course, this theme of harmonious cooperation was not ubiquitous throughout the interviews. Reports of disagreements were also common, especially in standards committees which were sponsored by trade associations rather than professional societies. This could be related to the types of standards that are typically sponsored by each type of secretariat or to the overall level of experience of each type of organization at sponsoring standards and providing the necessary support and leadership for their committees. Exploring these factors and other which may be important to successful standards development is another important area for future research.

6.7.4 Summary

An important theme emerged from the discussion of appeals that applied to both the OSHA and ANSI systems, which is that the lack of an effective appeals mechanism discourages the use of appeals. Several labor union respondents reported feeling discouraged about the court decision in the case of metalworking fluids, that OSHA was justified to focus time on other standards, and felt that it left unions with few options to compel government action. Besides appeals, the most notable source of influence over standards developers might be their own budget. Non-profit financial reports suggest that standards development is burdensome for small organizations that create only a few standards. In addition to formal appeals mechanisms and resource considerations, other sources of accountability for collecting information from labor unions and inviting them to participate on committees include the importance of accurate information, the reputation of standards developers, the importance of having balanced committees to comply with ANSI requirements and to form standards which will make standards more useful in a legal defense. When unions do participate on committees, their influence might be based on having common professional and academic background with other participants and on the desire of industry SHPs to create standards which will support their ability to take stronger positions on health and safety in the workplace.

CHAPTER SEVEN: DISCUSSION AND DIRECTIONS FOR FUTURE RESEARCH

The findings from this study improve our understanding of the effectiveness of participation in public and private standard-setting and provide useful insights regarding how and to what extent due process requirements have helped to shape that participation in two systems. This chapter first reviews the effectiveness of participation in the OSHA and ANSI systems and discusses the connection between the participation systems and due process requirements. Second, the findings on determinants of participation in standards-setting from this study are compared to previous research. Third, the chapter discusses the implications of the findings for democratic representation of labor unions and others in the creation of private standards based on democratic criteria. The discussion incorporates recommendations for improving participation in both systems and suggests directions for future research.

7.1 Effectiveness of Participation According to APA Criteria

This research gathered information about labor union participation in occupational safety and health standards created in the OSHA and ANSI systems with the goal of comparing the effectiveness of that participation. One way to compare the effectiveness of participation is according to how well each system fulfills the purposes of the Administrative Procedure Act. The two effectiveness criteria from the APA discussed in Chapter 2 were: 1) whether the process is effective for gathering outside information

about a standard (information transfer) and 2) whether policymakers are accountable for considering the information submitted. Based on the findings of the study, this section compares the OSHA and ANSI systems on these two criteria.

7.1.1 Transfer of information

The research showed that effectiveness of the OSHA and ANSI systems for gathering pertinent information about a standard varies in a number of ways. Several of the findings from the research are relevant to whether stakeholders will receive timely notice that a standard is being developed. Labor union respondents in the study found out about OSHA policy activities before the formal notice through a practice of constant monitoring. Conversely, labor union respondents did not constantly monitor the activities of ANSI standards developers and were likely to find out about standards through a process of selective searching or through their colleagues. The decentralization of ANSI standards developers creates an obstacle to monitoring the activities of all standards developers in a particular policy field. Although learning about the development of an ANSI standard might not be as critical to having input as it is for OSHA standards because ANSI standards are periodically revised, it should be noted that the structure of the system can lead to labor unions being unaware of new standards or revisions to existing standards that affect their members. The trend of merging among labor unions in recent decades has broadened the types of professions, as well as the number and types of safety and health issues, covered by a single union, which seems likely to exacerbate this problem. However, small changes in the existing system could greatly improve notice for labor unions and others. Providing updates on ANSI standards

activity in a central forum organized by policy area could greatly improve the ability of labor unions as well as small businesses to learn which standards are relevant to their interests and could allow them stay informed of upcoming changes across multiple standards developers.

Once a labor union representative has learned that an OSHA or ANSI standard is being developed, the effectiveness of information transfer will depend on their ability to acquire context about the issue so that they can submit a meaningful comment. The manner in which background information about standards that are under development is provided to stakeholders is different in the OSHA and ANSI systems. In the OSHA system, background information and the rationale for a proposed standard is provided in writing in the preamble. The findings from this research suggest that a preamble is useful to prospective commenters because it provides background information and summarizes the primary issues of debate. This serves to narrow the focus of later data collection by commenters, allowing them to contribute information in a more effective and efficient manner. The function of the preamble for providing background information on an issue could make it an especially important tool for smaller unions (or smaller organizations, in general) who have fewer resources available for keeping up with scientific literature or participating in the early phases of standards development. Consistent involvement with an issue over time and more experience participating in OSHA standard-setting, in general, changed the way the preamble was used by commenters and made the preamble less important, relative to other sources of information (including their own past experience and knowledge of the content of other OSHA standards), to the formation of

comments. Labor unions with varying levels of experience participating in OSHA standards voiced concerns over the vast and ever-increasing amount of information contained in preambles, which can be overwhelming and can cloud the important issues. OSHA's use of informal public hearings to supplement the written notice and comment period helps to clarify the main issues of a rulemaking but can require days or even weeks of participation.

In the ANSI system, having access to the type of information typically contained in a federal preamble (the basis for creating a standard and the information that was considered in its development) is largely dependent upon some form of committee participation. While scientific literature and injury data typically form the basis for both OSHA and ANSI standards, committee participation on some level is necessary to understand why some provisions were included in a proposed standard and others were not. Respondents with long-term experience in ANSI standards development indicated that subcommittee participation was the best way to acquire context about ANSI standards. Subcommittee members are looped into ongoing discussions about a particular issue and witness the "back and forth" that leads to a proposed standard, but serving on subcommittees can be labor-intensive and requires steady participation to keep up with the issues and to retain the position. Besides subcommittee participation, experienced participants indicated that they would rely on personal contacts and professional networks to learn about the details and the main issues under consideration. The findings strongly suggest that committee participation on some level is critical to

acquiring context about an issue and to learning about the concerns and interests of other committee members, which is crucial to resolving differences.

In sum, acquiring the context necessary to participate in a meaningful way is labor-intensive in both systems but for different reasons. Both systems require a certain level of knowledge about how the system works to know when information can be submitted and how. While learning how to participate in either system might not be particularly difficult, knowledge of the ANSI system is certainly less common. Assuming that a lack of knowledge about the process is not an issue, the primary difference between the two systems is how context about a proposed standard is acquired. Acquiring context about a proposed OSHA standard requires prospective commenters to comb through a large amount of information at one time whereas acquiring context about a proposed ANSI standard requires steady involvement over a longer period of time. With respect to improving the ability of labor unions and others to acquire context about OSHA standards, the obvious recommendation to shorten and simplify the preamble and the supporting materials would be seen as infeasible given the increasing due process burden placed on OSHA and other agencies to document the reasons for their policies. Reducing the amount of documented evidence required to show that a proposed OSHA standard is necessary and technically feasible would make the standard legally vulnerable. In the case of OSHA standards, the only viable solution for reducing the burden of acquiring context might be to provide more information rather than less. A more concise description of the major issues could be provided in a separate document, a preamble-light of sorts, with references in the text to read more in depth about various issues.

Regarding improvements to providing context for commenters on ANSI standards, comparing a system with no preamble to a system with a 350-page preamble somewhat confuses the issue. While the interviews indicated that OSHA preambles can be overwhelming, they also indicated that they can be useful by making data collection more efficient and by providing background to commenters who lack time to keep up with the details of the issue. Providing a brief rationale and explanation for the standard, including what other options were considered and what information would be useful to the standards developer in the future would likely improve the ability of outsiders, people who were not on the committee, to participate. Improving the ability of prospective commenters to acquire context about an ANSI standard might be successfully accomplished through a mechanism similar to what was described for improving notice. In cases where federal government employees occupy seats on ANSI committees, they might summarize the main issues and/or collect information from other participants, including but not limited to labor unions.

7.1.2 Determinants of Participation

Given the importance of committee participation for acquiring context about ANSI standards, the research examined factors that affect the decision of labor unions to participate on ANSI committees. Three factors were identified: time and resources, perceived effect of standards, and perceived effectiveness of participation. The cost of travel to meetings and committee fees can be obstacles for labor union SHPs who wish to participate. A trend towards providing more opportunities to participate via conference call and email could improve this. But given the benefits of face-to-face participation, it

seems that a trend towards solely virtual participation, while perhaps allowing more groups to participate in the ANSI system, could negatively affect the quality of information that is collected.

Evidence on how the cost of draft standards affect the ability to participate was mixed. Committee participants receive review at no cost, and many draft standards, including proposed changes are provided for free, at least in read-only form. The cost of standards does not appear to be an important obstacle to participation for labor unions, at least not directly. However, one area where the cost might an obstacle is when labor unions search for standards to determine if they are relevant to the safety and health of their members. Only being able to identify standards by title could make it difficult to determine which standards are relevant and in what ways. In this respect, having to pay to read a standard would make it difficult for any stakeholder to determine whether they would want to participate at all.

Beyond the direct financial costs of participation, time is also an important factor in deciding whether to participate in ANSI standards. Participation on a committee that is drafting a new standard requires a large time commitment, a factor which could make labor unions less likely to accept invitations to participate on new committees. Data from the interviews suggested that labor unions view their time participating in ANSI standards in terms of the opportunity cost of other activities such as their day-to-day job duties and participation in OSHA standards. Having fewer OSHA standards under development may increase the amount of time labor unions have to spend on participation in ANSI standards participation. But job duties, which include safety and

health training and accident investigations, can be unpredictable and take precedent over attendance at meetings. Mandatory voting and attendance requirements for some committees could make participation unfeasible. The trend toward downsizing and merging of unions will reduce their ability to participate in any safety and health standards, ANSI or OSHA. The committee lists shows that this role is unlikely to be filled by any other groups with federal agencies (OSHA, MSHA, and NIOSH) participating on only a subset of ANSI committees that create occupational safety and health standards.

With respect to Hamilton's assertion that labor unions do not participate in private standards to avoid assigning legitimacy to the process, the climate has largely shifted although there are still examples of this sentiment. In general, labor union respondents who participated in the ANSI process reported positive experiences. Interview data shows that they understand the importance of ANSI standards for later OSHA adoption and other uses and participate where time and resources allow. Union respondents also voiced their appreciation for the open nature of dialogue that occurs in committee meetings. Unlike OSHA hearings and other formal opportunities for providing information where statements are recorded, ANSI committee meetings provide off-the-record opportunities to talk more frankly about issues.

Previous research (Furlong, 1997; Furlong and Kerwin, 2005; Tandy and Wilburn, 1996) found that perceived effectiveness of participation is related to participation rates. This research made a similar finding. Evidence from the interviews suggested that a perception of having no effect on a standard would preclude participation by labor

unions. Two factors which affected labor unions' perceptions of their ability to influence standards were the voting system and the lack of an effective appeals mechanism. Those with long-term experience participating in ANSI standards had found other ways to be effective. To the extent that the lack of an effective appeals mechanism causes participants to feel that efforts are not worthwhile, it may prevent important information from reaching standards committees. Again, as mentioned earlier, an outlet for concerns, such as a formal opportunity to file a report on the limitations of a standard might help to abate the perception that participation is futile. Ultimately, however, more participation by labor unions will depend on the number of people that are available to serve on committees, a factor which is unlikely to increase.

7.1.3 Accountability for considering information

The second APA criterion of effectiveness is accountability for considering information that is submitted. Appeals in the ANSI process are limited to procedural appeals only beyond the level of the standards developer. A standards developer might hear appeals on a technical aspect of the standard, such as whether certain information was properly considered, but the *ANSI Essential Requirements* do not require it. They only require that directly, materially affected interests have the opportunity to comment. ANSI standards developers are not expected to change a standard based on submitted information. Furthermore, due to the absence of a general statement of purpose for standards created through the ANSI process, there would be no basis on which to appeal the content of a standard even if technical appeals were required. The reasons for the level of protection conveyed in a standard as well as why certain provisions were chosen

over others (e.g., cost, technical feasibility, etc.) are not formally recorded. As discussed in Chapter 2, the Administrative Procedure Act also lacks requirements for how submitted information should be considered, but the APA requirement for a general statement of basis and purpose (contained in the preamble) provides the basis for courts to scrutinize the provisions of government standards in light of submitted information and, a practice which has become more common in recent decades.

While it might not be reasonable to expect a private standards committee to create a “voluntary” standard which will be more costly to businesses simply because submitted information shows that another method is safer, it is reasonable to expect standards to be technically correct and have their limitations clearly stated so that they are not used incorrectly in the courts. Practical recommendations for improvement in this area should focus on providing information about the limitations of ANSI standards in some cases, so that, at least, if it is not incorporated into the standard or provided in a preamble, it is available for end users of the standard. To this end, a minority report would be helpful to users of the standard who would benefit from knowledge of provisions which logically might have been included but were omitted due to expense.

7.2 Effectiveness of Participation According to Democratic Criteria

The effectiveness of participation in a policymaking system can also be measured according to how well it meets democratic criteria. Criteria for an effective participation mechanism from Laird (1993) are presented in Table 7-1 along with an evaluation and comparison of how well (good, fair, poor) the two systems, OSHA and ANSI, perform on each aspect. The evaluations do not cover all aspects of standards-setting; they are based

only on the findings of the research. The evaluations are based on a pluralistic perspective of democracy because standards are quasi-legislative in the sense that they are based on general facts and data which are not specific to a single firm or person. Debates over standards relate to how they will affect groups—workers, employers, manufacturers, insurance companies, and so on.

Table 7-1. Comparison of participation systems on democratic criteria

Criterion	OSHA	ANSI
Large number of groups participating	NA	NA
Participants have opportunities to learn how standards will affect them and what issues were considered	Fair Participants have opportunities to learn how standards will affect them, but options for learning about the issues that were considered require either keeping up with all background on an issue or fully reviewing a long and complex preamble and supporting materials	Fair Participants have opportunities to learn how standards will affect them, but learning about what issues were considered requires ongoing participation in the work of the committee.
Direct access to policymakers (to present information)	Good Multiple formal opportunities to present information directly to rulewriters; requires knowledge of process	Good Multiple informal opportunities to present information to committees; requires knowledge of process
A means of coercion, not just an opportunity to be heard	Fair Formal appeals mechanism requires rationalization of policies in light of submitted evidence. Method is costly for stakeholders and outcomes are still subject to interpretation by courts.	Poor Formal appeals mechanism only requires acknowledgement of comments received. Influence occurs mostly at the individual level through participation on subcommittees. Final decisions based on majority vote, which favors groups with more resources to staff committees.

No finding was made on the first criterion (large number of groups participating) because this aspect was not directly compared. Future research, however, could compare

the groups that participate in government standards to those that participate in ANSI standards to see if some participate in one and not the other. On the second criterion (opportunities for learning), both systems were rated as fair but for different reasons. Participants have opportunities for learning in both systems, but both require are resource-intensive. To acquire knowledge about federal standards requires either intense review of a lengthy preamble or long-term involvement in the subject area. To acquire knowledge of ANSI standards requires ongoing participation in the work of the committee. Both are likely to favor large businesses with resources to participate. But as stated earlier, simple changes could greatly improve the ability of interested groups with less time or expertise to participate. In the OSHA system, providing a simpler description of the effects of the standard, perhaps designed specifically for small groups or non-experts, would help these types of participants to know what kind of information could constructively inform the rule. In the ANSI system, adding a simple description of the standard, the reasons for any changes made, and what additional information would be useful could permit groups without the ability for ongoing committee participation a way to participate more effectively.

On the third criterion (access to policymakers), both systems were rated as good with the caveat that knowledge of the system is necessary. Groups with less participation in the OSHA system might not realize that it is possible to request a stakeholder meeting with the agency to discuss concerns or might not know how to be involved in the agenda-setting activities of advisory committees. Likewise, new participants in the ANSI system

might not be aware of the easily accessible opportunities that exist to stay apprised of standards activities such as participating on subcommittees.

Although the appeals mechanism in the ANSI system cannot hold policymakers accountable for considering information, a direct comparison with the OSHA system is not appropriate because although ANSI standards can be powerful, they are less binding than OSHA standards. An appeals mechanism for ANSI standards which required a standard of evidence similar to OSHA could be financially impossible for standards developers to comply with. Federal court opinions have acknowledged that the burden of additional due process requirements eventually outweigh their intended benefits providing a strong justification for their limits. Given resource considerations of non-government SDOs, it is necessary to weigh the benefits of having ANSI standards at all against having slightly better standards. Furthermore, to suggest that the ANSI system adopt a substantive appeals mechanism ignores the design of how decisions are made within the system. The standards developer does not actually decide the final content of a standard; decisions are made through a vote of the committee members. Power is decentralized within the ANSI system and even further decentralized within its standards developers. Absent a complete overhaul of the ANSI process, improving the ability of stakeholders to influence the standard is extremely limited and can probably only be achieved by imposing requirements on how and under what circumstances standards can be used. For example, related to the case of occupational safety and health standards, the OMB Circular A-119 could be strengthened to require representation of labor unions on

private standards which are adopted by OSHA or MSHA. Similar measures could be taken to improve the representation of consumer groups and small businesses.

7.3 Concluding Remarks

Most private governance systems arise from the needs of a fast-changing society to create rules with a level of legitimacy, efficiency, and flexibility that cannot be achieved through traditional public policy-making institutions. As private standards and other forms of private governance become more important policy tools in U.S. society, we must focus research and policy efforts towards ensuring that the outcomes of these policy systems reflect the values of the broader public. Research efforts should be focused on creating a better understanding of the effects of private standards on stakeholders who are not directly involved in their development and on how these stakeholders can best be represented in the process without diminishing the important advantages these systems.

APPENDIX

APPENDIX A

Profile of Interview Respondents

	Date of first interview	Dates of additional interviews	Type of organization represented	Role/title	Policy area
1	10/21/2010		Small firm – auto safety devices	Engineer	Transportation safety
2	10/28/2010		Small firm – truck mfr	business owner	Transportation safety
3	02/18/2012		Law firm	product liability attorney	Consumer product safety
4	06/15/2012		SDO	VCS manager / coordinator	Occ. health and safety
5	06/25/2012		Labor union	Attorney	Occ. health and safety
6	06/29/2012		Small firm – transportation	President	Transportation safety
7	07/3/2012		Small firm – transportation	Owner	Transportation safety
8	07/05/2012		SDO	VCS manager / coordinator	Occ. health and safety
9	07/26/2012		Non-profit labor advocacy group	executive director	Occ. health and safety
10	08/03/2012		Professional association	Attorney	non-safety
11	08/14/2012		Federal agency	senior rulewriter	Safety policy, other
12	08/14/2012		Federal agency	senior attorney	Safety policy, other
13	08/15/2012		Federal agency	senior rulewriter	Safety policy, other
14	08/31/2012		Federal agency	Rulewriter	Safety policy, other
15	08/31/2012	08/23/2013	Labor union – HQ	Safety and health professional	Occ. health and safety
16	09/06/2012		Consumer group	executive director	Consumer product safety
17	09/11/2012		Consumer group	Policy analyst	Consumer product safety
18	09/13/2012	10/2/2013	Labor union	safety and health director	Occ. health and safety
19	09/14/2012		Consumer group	executive director	Consumer product safety
20	09/14/2012		Labor union	safety and health director	Occ. health and safety
21	09/23/2012		Independent	safety consultant	Consumer product safety
22	09/19/2012	9/24/2012, 8/21/2013	Labor union	safety and health director	Occ. health and safety
23	09/27/2012		Consumer group	policy advocate	Consumer product safety
24	10/03/2012		Consumer group	senior attorney	Consumer product safety
25	10/09/2012	10/2/2013	University	Professor	Occ. health and safety
26	10/17/2012		Federal agency	senior rulewriter	Safety policy, other
27	10/12/2012	10/19/2012,	Labor union	safety and health	Occ. health and safety

		08/30/2013		director, former	
28	10/23/2012		Labor union	safety and health professional	Occ. health and safety
29	11/06/2012		Construction company	safety and health director	Occ. health and safety
30	11/12/2012		University	Professor	Occ. health and safety
31	11/20/2012		Labor union (national office)	safety and health director	Occ. health and safety
32	11/08/2012	11/27/2012	Non-profit labor advocacy group	executive director	Occ. health and safety
33	11/28/2012	11/30/2012	Labor union (local office)	Retired	Occ. health and safety
34	12/03/2012	07/03/2013	Labor union (national office)	safety and health director	Occ. health and safety
35	12/04/2012		Labor union (local)	safety and health director	Occ. health and safety
36	11/30/2012	12/04/2012	Labor union (local office)	Retired	Occ. health and safety
37	12/05/2012		Labor union (local office)	electrical engineer	Occ. health and safety
38	12/06/2012	02/12/2013	Independent	employer; mfr; VCS committee chair	Occ. health and safety
39	12/07/2012		SDO	standards manager	Occ. health and safety
40	12/10/2012		SDO	VCS manager / coordinator	Occ. health and safety
41	12/27/2012		State OSHA	Standards director	Occ. health and safety
42	12/27/2012		State OSHA	principal safety engineer	Occ. health and safety
43	01/04/2013		Labor union	safety and health director	Occ. health and safety
44	12/05/2012	01/16/2013	Independent	safety engineer	Occ. health and safety
45	06/14/2012		Labor union	safety and health professional	Occ. health and safety
46	06/14/2012		Labor union	safety and health professional	Occ. health and safety
47	09/26/2012		Law firm	Occ. Injury attorney	Occ. health and safety
48	10/02/2013		Labor union	Safety and health professional	Occ. health and safety
48	10/07/2013		Labor union	Safety and health professional	Occ. health and safety
50	12/05/2013		Labor union	Safety and health professional	Occ. health and safety
51	12/05/2013		Labor union	Safety and health professional	Occ. health and safety
52	12/06/2013		Labor union	Safety and health professional	Occ. health and safety
53	1/25/2014		Labor union	Safety and health professional	Occ. health and safety

APPENDIX B

Institutional Review Board Materials

Recruitment Texts

The recruitment language varied depending on where I obtained the contact information for the prospective respondent—from the federal register or through a referral. The recruitments were done via telephone or email. In general, they were worded as follows:

Hello (name of person),

My name is Michelle Ranville. I am a doctoral student at George Mason University in Fairfax, Virginia, and I am conducting interviews for a dissertation study about standard-setting.

For contact found on Federal Register: I am requesting an interview with you because your institution commented on the “(name of standard) standard.” Would you be willing to participate in an interview about (area of standards) standard-setting?

For referral: (Name of common contact) referred me to you. I was hoping you might be willing to discuss your experience with (area of standard) standard-setting in an interview?

The interview would take about 45 minutes, and your identity would be kept confidential. If you would like to participate, please contact me at this e-mail address (mranvill@gmu.edu) or at 703-304-5130, and we can set up a time that is convenient for you.

Thanks for your time.

Sincerely, Michelle R.

Informed Consent Form

Michelle R. Ranville

HSRB Attachment 2

Title: *The Effectiveness of Due Process Procedures in Public and Private Standard-Setting*

INFORMED CONSENT FORM

RESEARCH PROCEDURES

This research is being conducted to better understand due process in private standard-setting by private organizations that set professional / technical standards or other policies for their respective industry. If you agree to participate, you will be asked several questions about the standard-setting process. Participation in this study will require approximately 45 minutes of your time.

RISKS

There are no foreseeable risks for participating in this research.

BENEFITS

There are no benefits to you as a participant other than to further research in the study of private governance.

CONFIDENTIALITY

The data in this study will be confidential. As a participant, you will be given the option to participate in the interview by phone or in person. If you choose to respond by phone, your answers will be recorded and saved as a word document with a numerical identifier only. The numerical identifier will be linked to your name, contact information, the organization that you worked for at the time of your interview, and the date of the interview. The following measures will be taken to protect your privacy: (1) your name will not be included on the interview recordings or transcripts; (2) only a numerical identifier will be attached to your interview recordings and/or transcripts; (3) only through the use of that numerical identifier will the primary or co-investigator be able to link your responses to your identity; and (4) only the principal researcher and one co-researcher will have access to the numerical identifier. While it is understood that no computer transmission can be perfectly secure, reasonable efforts will be made to protect the confidentiality of any e-mail transmissions.

PARTICIPATION

Your participation is voluntary and you may withdraw from the study at any time and for any reason. If you decide not to participate or if you withdraw from the study, there is no penalty or loss of benefits to which you are otherwise entitled. There are no costs to you or any other party.

CONTACT

This research is being conducted by Dr. Catherine Rudder and Michelle R. Ranville in the School of Public Policy at George Mason University. Dr. Rudder may be reached at 703-993-4996 and Ms. Ranville may be reached at 703-304-5130 for questions or to report a research-related problem. You may contact the George Mason University Office of Research Subject Protections at 703-993-4121 if you have questions or comments regarding your rights as a participant in the research.

This research has been reviewed according to George Mason University procedures governing your participation in this research.

CONSENT

I have read this form and agree to participate in this study.

☐ I agree to be audio taped. ☐ I do not agree to be audio taped.

Signature _____ Date _____

APPENDIX C

Interview questions used for open interviews

The questions in the table below were used to gather information from interview respondents in the unstructured interviews. Questions were modified and questions were added and discarded to narrow the data collection over the course of the open interviews. The number of respondents to whom the question was asked is included, but it is important to remember that this number is only loosely related to how much data on that specific topic was included in the interviews. Since these interviews were largely unstructured, respondents talked openly about their experiences and sometimes changed topics without being asked another question. The wording of the questions did not always match precisely what is in the table below. There was often additional context and explanation provided to the respondent to gather the data.

Question Area	Most Common Questions	No. of respondents
BACKGROUND	Could you please describe your background, work and academic, and explain how you participate in [type] standards in your current position?	25
	Could you discuss your experience participating in federal standards?	8
	Could you discuss your experience participating in voluntary consensus standards?	8
NOTICE AND COMMENT IN PUBLIC STANDARDS	How do you first hear about proposed federal regulations? OR In what ways do you receive notice of federal regulations?	7
	Do unions help to notify employers or other unions of new voluntary consensus standards?	3
	How is information collected in the federal regulatory process? OR Could you describe the notice and comment process? OR Could you describe the steps you took to comment on a federal regulation?	8
	In what ways do you participate in federal rules prior to the formal notice and comment period?	4
	How important is the information in the notice to submitting comments on federal rules?	5
	Do you ever have difficulty understanding the rationale or the basis for a federal rule?	3
	How do you first hear about proposed voluntary consensus standards? OR In what ways do you received notice of voluntary/ANSI standards?	8

STANDARDS	How is information collected in the voluntary standards development process? OR Could you describe the notice and comment process? OR Could you discuss the commenting and balloting process?	13
	In what ways do you participate in voluntary consensus standards prior to the formal notice and comment period?	2
	Do you ever have difficulty understanding the rationale or the basis for a voluntary consensus standard?	3
	How often are comments submitted on proposed voluntary standards from non-committee members during the public review period? OR Are many outside comments submitted during the public review period?	7
	Have you ever submitted a public review comment on a proposed voluntary standard?	3
	What unique information or perspectives do union representatives contribute to occupational safety and health standards? OR What is the best source of information on work practices? OR How does input from unions affect occupational safety and health standards?	13
ACCOUNTABILITY OF GOVT POLICYMAKERS	How or in what ways are federal policymakers/agencies accountable for due process in rule/standards development? OR What are the consequences for federal policymakers/agencies rulewriters for not providing due process?	9
	Could you discuss how comments lead to changes in the proposed rule?	3
	Does a higher volume of comments result in more changes to a proposed rule?	2
ACCOUNTABILITY OF NON-GOVT POLICYMAKERS	How or in what ways are voluntary standard-setters accountable for due process in rule/standards development? OR What are the consequences for voluntary standard-setters for not providing due process?	10
	How do ANSI procedural requirements influence the standard-setting process?	2
	What is the influence of public review comments versus committee participation on a non-government standard	5
ABILITY AND WILLINGNESS TO PARTICIPATE IN PUBLIC STANDARDS	What are the primary obstacles to participation in federal regulations?	7
	Is a lack of technical expertise an obstacle to submitting comments on federal rules?	3
	How do financial resources affect the ability to participate in federal rules?	4
ABILITY AND WILLINGNESS TO PARTICIPATE IN PRIVATE STANDARDS	What are the primary obstacles to participation in voluntary consensus standards? OR In what ways might some stakeholders be excluded from participating in voluntary consensus standards?	10
	Is a lack of technical expertise an obstacle to submitting comments on voluntary consensus standards? OR Is technical expertise important to reaching consensus in voluntary consensus standards?	6

	How did you first start participating on the (blank) voluntary standards committee? OR How did you first begin participating in voluntary consensus standards?	11
	How are members recruited for voluntary consensus standards committees?	6
	Does the cost of a proposed voluntary consensus standard affect participation?	2
	Why do unions participate in voluntary consensus standards? OR For what reasons do unions decline to participate in voluntary consensus standards? OR Do unions have a negative view of participation in voluntary consensus standards?	9
	Are voluntary consensus standards ever referenced in bargaining agreements?	3
	How do financial resources affect the ability to participate in voluntary consensus standards?	6
ABILITY TO INFLUENCE PUBLIC STANDARDS	In what ways do you participate in federal rules? OR What forms of participation in federal rules are most effective? OR What strategies do you use to influence federal rules?	13
ABILITY TO INFLUENCE PRIVATE STANDARDS	In what ways do you participate in voluntary standards? OR What forms of participation in voluntary standards are most effective? OR What strategies do you use to influence voluntary standards?	12
	Why are unions invited to participate on voluntary consensus standards committees? OR Are there requirements for worker representatives on voluntary consensus standards committees?	7
	Are SDOs willing to make a standard that will likely be appealed or opposed by industry?	6
	Is the information you submit to federal policymakers the same or similar to what you submit for voluntary consensus standards?	3
PURPOSE OF PRIVATE STANDARDS	What is the purpose of voluntary standards? OR How are voluntary standards used? OR Why do firms comply with voluntary standards?	11
	How are voluntary standards used in lawsuits?	2
	Are voluntary standards developed to preempt federal standards?	3
	Who initiates the development of a voluntary consensus standard and how?	3
	For what reasons do firms oppose the development of voluntary consensus standards?	3

APPENDIX D

Categories, subcategories, and common codes from open interviews

Category	Subcategory	Codes	
Value of Union Participation	Communication with workers	worker fear of retaliation for injury reporting	communication with workers about injury
		unions have access to job sites	focus on safety from worker perspective
	Knowledge of work and injury/illness	theoretical vs actual work practices	union reps conduct accident investigations
		unions observe/communicate hazards across industry	unions verify examples of unsafe work practices
		labor perspective differs from other committee members	unions track injury/illness of members
	Lack of financial agenda	employer focus on finances/productivity	unions translate production decisions to health and safety
		inspector incentive to misrepresent accident causes	employee fault perspective
Notice	Notice of fed regs	union pressure for standard	notice through informal agency info collection
		constant monitoring of multiple sources	notice through FR prior to NPRM
		notice through networks	long OSHA process
		notice through media attention	FR insufficient for general public
	Notice of ANSI stds	notice through networks	VCS not common knowledge
		notice from OSH publications, trade/prof. groups	employer notice through law firms
		notice through specific searching	employer notice through work contracts
		notice of revisions less publicized	employer notice through unions
	Decentralization	similar requirements across agencies	VCS more narrow in scope than fed regs
		less regularity in private process	inability to staff multiple committees
		need for centralized info about VCS	government notice more centralized
Acquiring Context	Context through committee participation	ongoing involvement	no outside knowledge of committee deliberation
		outside participation uncommon	committee participation necessary to gain context
	Cost of standard	cost prevents outside participation	cost prevents compliance
	Info in fed regs notice	Use of preamble to understand objective	information monitoring
		Use of preamble to narrow data collection	use of preamble to frame arguments
		use of preamble to determine whether participation is needed	
	Technical expertise	importance of non-technical contributions	technical expertise affects depth of involvement
		technical expertise in-house	multiple areas of expertise in single standard
		acquired through participation	all committee members lack
		overlaps with work duties	

Comment	Formal vs informal communication	legal requirements drive formal communication in fed regs	off record FTF conversations more open
		FTF contact seen as important to influence	verbal FTF improves rapport, eliminates labels
		Verbal FTF communication aids in providing context	
	How info collected in fed regs	opportunity to question/refute submitted information	trade associations serve role of translation
		neutral third party moderates	comments mostly from large companies and trade groups
		internet has increased volume of comments	general public participation uncommon
		public has early stage access to policymakers	
	How info collected in private stds	VCS content reflects knowledge of committee members	frequency/source of public review comments
		SDO does outreach to gather needed expertise	continuous opportunities for input
		info collection through meetings and conference calls	subcommittee work shapes draft standard
		peer to peer communication shapes standard	SDO does outreach to specific stakeholders
		unions submit info through other unions	labor union input through subcommittees
	When info collected in fed regs	pre-NPRM contact seen as important to influence	pre-NPRM info collection is mandatory
		early info collection shapes proposed standard	
	When info collected in private stds	early info collection shapes proposed standard	early stage participation expected from committee members
		early stage access varies	
Determinants of Participation	Time and resources	cost of travel	committee work includes interpretations and appeals
		limited union OSH staff	pace of standards creation
		required attendance/participation	unions work to recruit committee members
		in-depth participation necessary to be effective	virtual participation on private standards
		fees to become voting member	opportunity cost of participation in private standards
		need to justify costs to union management	committee fee waivers for important stakeholders
	Perceived effect/utility of standards	VCS used to hold employers accountable	expectation of federal adoption
		voluntary compliance unknown	expectation of voluntary compliance
		changing view of VCS by unions	expected use in general duty violations
		VCS used in bargaining/settlement agreements	expected use in work contracts
	Perceived effect of participation	merit of Hamilton claim	perception that participation is not effective
		view that some progress better than none	view that ANSI is more accessible/responsive than OSHA
Ability to Influence	Accountability for reading/considering comments, fed regs	accountability to APA rules	judicial review
		commenters use record to verify comments considered	
	Accountability for reading/considering comments, private stds	Accountability to ANSI rules	protect reputation of organization
		non-persuasive	no appeals based on content
		threat of litigation	
	Accountability of committee members	professional allegiance	personal relationships
		safe haven theory	
	Impetus/impediment for fed regs	highly visible disaster	lack of transparency at OMB stage
		technology precedes policy change	policy priorities of political leaders
		use of petitions	DPRs as obstacles
		limited resource capacity	political bandwidth of federal agencies

	Impetus/impediment for private stds	death/injury/illness	cost of appeals
		threat of litigation	credible threat of regulation
		sales revenues	drafting, appeals, and interpretations workload
	Standard of evidence, ANSI	consensus of people	less data/analysis needed for change
	Standard of evidence, fed regs	comment influence based on quality and accuracy	obfuscation of information
		fewer people can have influence in fed regs	need clear "effect" and data to justify OSHA standard
	Voting determinants	requirement to explain negative votes	labor/management relations
		avoid conflict with other committee members	union management
		revolving door	
Purpose of Non-Govt Standards	Legal protection	standard of care	opposition to VCS that open old equipment to legal vulnerability
		opposition to standards to avoid standard of care	
	Marketing/ Competition		
	Preempt fed regs		
	Reputation		

APPENDIX E

Interview protocols used for final interviews

The following main questions and probes were used to gather information from interview respondents in the final round of interviews.

Interview Protocol for Participants in OSHA Standards

1. Could you briefly describe your work and/or academic work background that led to your current position? (e.g., years of experience, school/training, etc.)
 - Years of experience
 - Academic background / Former laborer
2. Could you describe your experience participating in federal standards? (e.g., commented on proposed rules, participated in advisory committee meetings, filed petitions, other)
 - How many rules/standards have you commented on?
 - Do you participate on advisory committees? Petitions? Direct contact with policymakers?
3. When you have commented on federal standards, did you use the information in the preamble to help form your comment? If so, how?
 - To challenge agency assumptions
 - Did not use it because have enough background on the situation
 - Did not use it because too long
4. In what other ways besides the preamble did you gain context about the standard so that you could comment? (e.g., meetings with other labor unions, meetings with OSHA/MSHA)
 - AFL-CIO
 - Other unions
 - Participation on advisory committees

Interview Protocol for Participants in ANSI Standards

1. Could you describe your experience participating in voluntary consensus standards such as ANSI standards? (e.g., member of committee/subcommittee, presentations or informal contact with standards committees, submit comments during public review period)

- Member of committees, subcommittees, etc.
 - Participation through networking with other union/SH professionals
 - Contacting staff at an SDO to ask questions about a standard and/or provide information
 - Making a presentation to a standards committee
 - Requesting interpretations of standards
 - Submitting comments through public review period
2. How did you come to participate on that (those) committee(s)?
- Recruited, invited by chair or other committee member
 - Applied to participate, asked to participate by union leadership
3. What factors did you consider in your decision to participate on the committee (subcommittee)? (e.g., fees to join, travel funds, time, effectiveness of your participation, importance of the standard)
- Fees to join committee
 - No travel funds (i.e., attend meetings)
 - Too many other job duties (i.e., opportunity cost)
 - Don't know the effect of standards?
 - Negative evidence: dislike the ANSI standards system
4. Have you ever turned down an invitation to participate on a voluntary standards committee for any of the factors you mentioned?
5. When you are no longer involved in the standard in your current capacity (i.e., on a committee or subcommittee), would you participate by submitting outside comments on the standard? Why or why not?
- [If not] Why would you not participate in this way?
 - [If yes] How would you gain information about the proposed standard to participate through the public review period without being on the committee/subcommittee?
 - Networks; calling someone at the SDO

APPENDIX F

Categories and codes from final, semi-structured interviews

Category	Codes
Use of preamble	Amount of info in preamble overwhelming
	Comment based on experience
	Communication with colleagues to acquire context
	Benefit of informal, face-to-face communication
	More due process creates longer preambles
	OSHA role in policy development
	OSHA staff provide clarification
	Preamble focuses additional data collection
	Preamble useful but not necessary
	Reg text is main focus of comments
	Reliance on preamble for background info
	Experience of commenter and use of preamble
	Unions cooperate to form comments
Context from outside committee	Decentralization and tracking ANSI standards activity
	Institutional knowledge guides comment formation
	Lack of preamble and comment formation
	Learning curve to ANSI participation
	Subcommittee participation useful to gain context
	Use of networks and personal contacts to gain context

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