

Subcontractor Default Insurance (SDI):

Its Use, Costs, Advantages, Disadvantages and Impact on Project Participants

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INTRODUCTION

The value of non-residential construction in the United States is in excess of five hundred billion dollars (US Census Bureau). For decades, contractor and subcontractor surety bonds have been utilized on a significant portion of this new work to transfer construction related performance and payment risk to the surety. A surety bond is a three party agreement whereby the surety guarantees to one party, the owner or the contractor, the performance (or payment) of another party, the contractor or subcontractor respectively. Sureties prequalify firms prior to granting surety credit to reduce financial risk and to ensure that each contractor and subcontractor has the capacity and ability to perform. Surety bonds are typically required on federal, state and local government work and are quite common on large multi-family and non-residential projects in the private sector.

In the mid-nineties an alternative risk management product for subcontractor performance was launched - Subcontractor Default Insurance (SDI). SDI is a catastrophic insurance policy that provides coverage to the general contractor for the cost of subcontractor and supplier default. Policies offer less payment protection for subcontractors and suppliers and carry high deductibles, a co-pay layer, and occurrence and aggregate limits for the contractor. With SDI the contractor, not the insurer, prequalifies the subcontractors/suppliers and the contractor has a level of flexibility and control to respond to subcontractor default not available with surety bonds. With SDI, the contractor assumes greater responsibility and has more 'skin in the game', but if losses are minimized the contractor can possibly reap financial benefits.

Over the past decade SDI programs has grown to more than 150 contractors using subcontractor default insurance on some or all of their work (Zurich 2008a). With the possible exception of the sole insurer offering SDI, little or no empirical data has been collected to: 1) evaluate its use, effectiveness, and cost or 2) permit a comparative analysis with traditional surety bonds. This study attempts to address both those needs.

SURETY INDUSTRY

History

A surety is a person or legal entity that agrees to be responsible for the debt or obligation of another party. The first known suretyship contract dates back to etchings on a Mesopotamian clay tablet originating around 2750 BC. Hammurabi's code, an ancient legal code created in 1760 BC, is the first known legal code to address suretyship. The oldest surviving written surety contract is a Babylonian financial contract created in 670 AD and the foundation for many of the current principals of suretyship emanate from Roman law dating back to 150 AD (McIntyre & Strischek 2005).

More than two millennia later, in 1880, the first surety company was established in the U.S. – the United States Fidelity and Casualty Company of New York. Later that decade in 1884 the Heard Act became law. The purpose of this legislation was to protect taxpayers from contractor failure by requiring

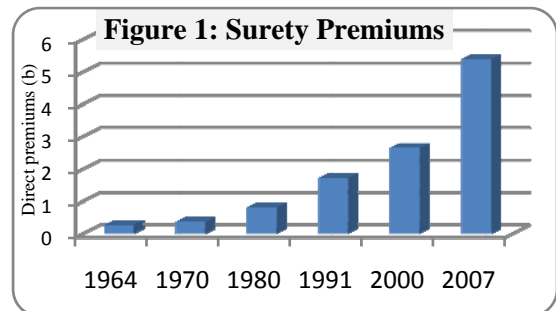
contractors on federally funded projects to furnish surety bonds to assure project completion and payment of subcontractors and suppliers (McIntyre & Strischek 2005, SFAA 2008a). Bonding requirements were updated in 1935 during the Great Depression era with the passage of the Miller Act. The Miller Act required separate payment and performance bonds on federally funded projects. It established a bond threshold (minimum project size) of \$2,000 which was later increased to \$25,000 in 1978. In 1994 the threshold was raised to \$100,000 but the legislation retained payment protection for subcontractor and suppliers on federal projects ranging from \$25,000 to \$100,000 (SFAA, 2008b). In 1999 the Miller Act was amended to require the face value of the payment bond be equal to the contract price on federal projects (Ramsey 2008).

Since the passage of the federal Miller Act, all 50 states, the District of Columbia, Puerto Rico, and most local jurisdictions have enacted ‘Little Miller Acts’ requiring surety bonds on state and local public works projects (SFAA 2008b, Korman et. al. 2007). Bonding thresholds vary among the states, with the majority of such thresholds at or below the \$100,000 federal minimum (SFAA 2008b).

Market Share

The United States surety industry has been in existence for well over a century. Since 1964 direct written surety premiums (contract and commercial) have grown from 249 million to 5.4 billion as of 2007 (Figure 1). Over that period the average year-to-year percentage growth in written premium was 7.6% in current dollars (SFAA). During this same time period the value of new non-residential construction increased from 44.6 billion to 567.4 billion for an average yearly increase of 6.3% (US Census Bureau). The fact that surety premiums outpaced the growth of the underlying construction industry would tend to indicate increased use of surety bonds by contractors and/or construction users. This has been confirmed by a recent survey of bond producers where 42% indicated an increase in the number of private sector jobs for which contractors were seeking bonds (Grant Thornton 2007).

In spite of the growth in surety written premiums, it remains a relatively small portion of the nation’s Property and Casualty (P/C) Insurance lines. Of the 494.7 billion in total direct P/C premiums in 2006, surety premiums totaled only 5.03 billion, or 1.02% (www.iii.org). As a result, most every surety is an operational unit or division of a major insurance company and typically the bond (surety) department is a small portion of the underwriter’s business (McIntyre & Strischek 2005).



Underwriting

Sureties may typically be a subsidiary of a large insurance company, but the operational fundamentals of surety underwriting differ widely from the carrier’s primary insurance business. Conventional insurance is structured to compensate the insured for unforeseen events or loss (McIntyre & Strischek 2005). The insurance risk is largely underwritten based upon actuarial principles – a process whereby premiums are determined based upon projected losses, other underwriting costs, and desired profitability (Bruner & O’Connor 2008).

With surety bonds, the underwriter has no expectation of loss. Sureties view contractor failure or default as avoidable (McIntyre & Strischek 2005). As a result, the underwriting process more closely resembles that used with the credit and lending industry. Surety’s make a decision to extend surety ‘credit’ on the behalf of a contractor or subcontractor based upon the firm’s ability to meet the obligations of the underlying contract (Bruner & O’Connor 2008). To determine capability and credit worthiness, sureties pre-qualify contractors based upon a number of key indicators including financial strength, past

performance, project expertise, and local experience. In addition, sureties often require personal guarantees and indemnification from owners of the construction firm. They expect firm ownership to be personally committed to the business and reinforce that commitment by having some ‘*skin in the game*’ (Grant Thornton 2005, Ramsey 2005).

Performance

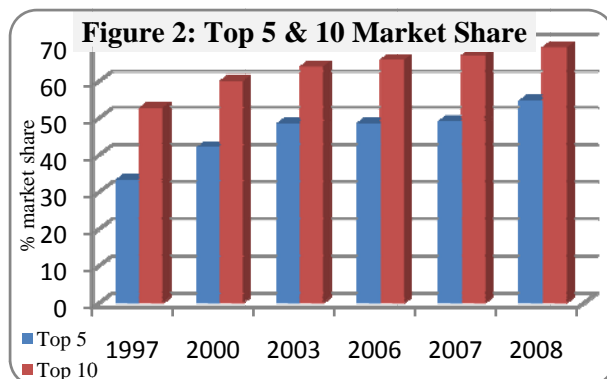
In spite of extensive prequalification efforts designed to extend surety credit to only those contracting firms that can meet their underlying contractual obligations, sureties do experience losses - sometimes quite large losses. In 2000 the surety industry experienced its worst loss in 20 years and its first since 1987. Six of the top twenty sureties lost money and the industry had a direct contract surety loss ratio of 45%. With administrative and underwriting costs, the industry had a combined loss ratio of 105% resulting in a loss of five cents for every dollar of earned premium (McIntyre & Strischek 2005, SFAA).

Direct losses from 2000-2003 totaled 8.05b (Anderson 2004) and peaked in 2004 with a loss ratio greater than 70% (SFAA, Korman et. al. 2007). This was also a difficult period of time for contractors with an industry failure rate of 28.5% (Bizminer, Ramsey 2007b). In response to poor performance some sureties exited the business, a few were sold or merged, and those that remained adjusted their business model and tightened their underwriting standards (Huntsman 2004). Sureties refused to bond contractors that failed to meet rigid underwriting standards (Korman et. al. 2007). Largely as a result of these actions the surety industry returned to profitability in 2005. Conditions improved and by 2007 the industry’s loss ratio had dropped to 16.9% with 93% of the Top 100 experiencing profitable surety operations. However, during the industry’s return to profitability the landscape had changed (Schubert 2002a, Korman et. al. 2008, NAIC).

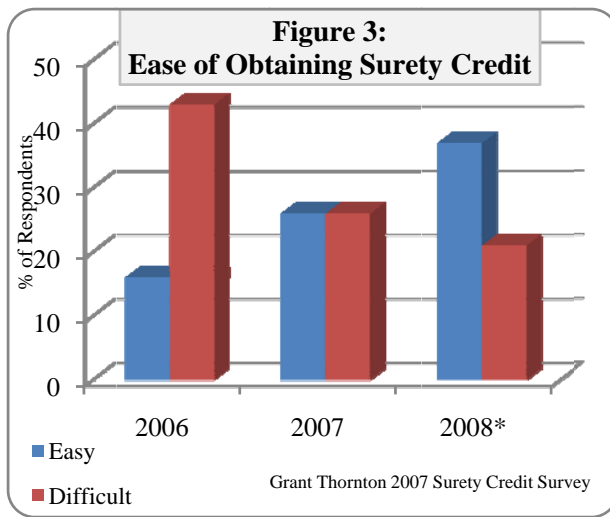
Consolidation

There are over 250 insurance companies writing surety bonds that appear on the U.S. Department of Treasury Circular 570 (a listing of companies approved to write surety bonds on federal projects). Additional insurance companies are authorized to write surety bonds in the various states and U.S. territories. However, the majority of surety bonds are written by the top five largest surety firms and these firms have increased their market share in recent years (SIO 2008). There was minimal consolidation of the surety industry in the 1980’s, but starting in the 1990’s an industry transformation commenced. Of the Top 15 surety underwriters in 1994, eight were sold or absorbed by another surety and two left the business by 2007. Only five of those in the Top 15 in 1994 remained in the Top 15 in 2007. In addition to the changing makeup of top sureties, the market share of the largest sureties increased. Over the past ten years, market share of the Top 10 has grown from 53% in 1997 to 66% in 2007 (Figure 2). The planned 2008 acquisition of Safeco by Liberty Mutual will vault Liberty Mutual to 2nd place and increase market share of the Top 10 to 69%. Subsequent to the Liberty/Safeco merger, the Top 4 sureties will have close to 50% market share (Korman et. al. 2008, SFAA, McIntyre & Strischek 2005). A consequence of this industry change and consolidation is that the long-term relationships between some contractors and subcontractors and their surety have been altered or dissolved. (Grant Thornton 2005).

The surety reinsurance industry has also experienced change and consolidation. During the early 2000’s, twelve reinsurers stopped underwriting surety lines and only 10+/- reinsurers remain in the market. This has adversely impacted the availability of reinsurance for larger projects and raised a concern for surety capacity, especially



on larger projects. A majority of bond producers forecast that surety and reinsurer consolidation will make it more difficult for large, and small, contractors to obtain surety credit (Grant Thornton 2005, ENR 2005, Ramsey 2007a).



Currently, the need for co-sureties and/or reduced bonding limits on large projects persists. Bonding for emerging contractors remains challenging. The surety market for established small contractors has become more competitive with the addition of new companies catering to that market or existing companies gaining authority to write in additional jurisdictions. The overall availability of surety credit appears to be improving. A recent survey of bond producers showed an easing market for construction bonding. In 2006, only 16% of bond producers indicated it was 'easy' and 43% said it was 'difficult' for contractors to obtain surety credit (Figure 3). By early 2008, 37% forecast favorable conditions and only 21% indicated it was 'difficult' (Grant Thornton 2007). Industry capacity

appears adequate and sureties are willing to expand surety credit for contractors with whom they have a good long-term relationship (Ramsey 2007b).

SURETY BONDS

Bond Types

A surety bond is a three party agreement whereby the surety guarantees to one party, the obligee, the performance of another party, the principal. In the case of a contractor bond, the obligee is the project owner and the principle is the contractor. With a subcontractor bond, the contractor is the obligee that receives assurance from the surety that the bond's principal, the subcontractor, will perform. Each state has enacted various regulatory and statutory requirements for companies issuing surety bonds that are monitored and enforced by state insurance departments (McIntyre & Strischek 2005). There are essentially three types of surety bonds used in construction contracting – bid, performance, and payment bonds.

A bid bond is normally required of the general contractor on public projects whereas with private work bid bond requirements are at the discretion of the owner. The bid bond assures that: a) the bid has been submitted in good faith, b) the contractor intends to enter into the contract at the bid price, and c) the contractor will provide the required performance and payment bonds. On rare occasions a bid bond is provided by a subcontractor. A bid bond normally provides bid security in the amount of 5% to 10% of the contractor's bid. It is generally furnished by the contractor's surety at no cost to either the contractor or the project owner (Fisk & Reynolds 2006).

A performance bond provides assurance that the contractor/subcontractor will perform the work in accordance with the contract documents. It is generally written for 100% of the contract price. Premiums for performance bonds can vary based upon the risk as evaluated by the underwriter. Variables influencing premium include the financial strength of the principal, project type and size, construction duration, and contracting method. The bonding rate is calculated based upon contract amount and generally ranges from .6% to 2.5% of contract value. The standard rate structure is on a graduated scale

ranging from \$25/\$1,000 on the first \$100,000 of contract value to \$6.50/\$1,000 on the contract amount greater than 7.5 million (McIntyre 2007, Nelson 2007a).

A payment bond guarantees payment to certain subcontractors and suppliers furnishing labor and materials for the project. On public construction projects, statutory payment bonds provide a critical payment remedy for subcontractors and suppliers. Subcontractors and suppliers performing public construction work do not have mechanic's lien rights against public property. If the prime contractor refuses or fails to pay subcontractors and suppliers due to insolvency or for other reasons, such subcontractors and suppliers do not have an alternative means to recover their wages, costs, and expenses—that is, they cannot place a lien against the public property and they cannot sue the governmental entity, since they do not have direct contracts with the contracting agency. Instead, the payment bond provides them with a means to make claims and recover for unpaid labor and materials furnished on the public project.

A subcontractor bond provides payment protection for sub-subcontractors, suppliers, labor and the other payment obligations incurred by the subcontractor necessary for the execution of the work. Similar to a performance bond, the face value is typically for 100% of the contract price. Ordinarily there is no additional cost for a payment bond if issued in tandem with a performance bond. If purchased alone, the cost is slightly less than paid for a performance bond (Nelson 2007a).

Purpose

Surety bonds serve two primary purposes – prequalification and risk transfer (ENR 2004). Surety prequalification efforts provide independent, third party assurance that the subcontractor (or contractor) can deliver the project in accordance with the terms and conditions of the contract documents and meet its financial obligations (Hansen 2004). Surety credit is only granted subsequent to an extensive prequalification effort that evaluates key indicators including the firm's financial performance, accounts receivable, work in progress, management experience, business and strategic plans, contract terms, contracting methodology, and the project particulars. Surety bonds, or even a consent of surety bonding commitment, helps ensure that the subcontractor has the organizational and financial capability to perform on a specific project (Schubert 2001, SIO 2008).

In addition to prequalifying project participants, surety bonds provide protection in the event that the subcontractor/contractor is unable or unwilling to perform. This transfer of performance and financial risk to the surety is the primary reason federal and state governments require contractor performance and payment bonds (Schubert 2002b). Bonding of contractors and subcontractors in commercial construction is also becoming an increasingly common practice, particularly as a result of lender requirements in connection with financing. Bond producers indicate more project owners are requiring surety bonds from the contractor (Grant Thornton 2007) and many contractors have a company policy requiring the bonding of subcontractors above a pre-established threshold (Nelson 2007a).

Advantages of Surety Bonds

Advocates of surety bonds submit the primary advantages of subcontractor (and contractor) performance and payment bonds include:

Independent, third party prequalification: Subcontractor default often leads to project cost overruns, schedule slippage, and/or quality problems. These adverse effects are the primary reason that prequalification of project participants is so important. While some level of subcontractor prequalification is routinely performed by the contractor, sureties are in a unique position to assess subcontractor capability, capacity, and character. The subcontractor-surety relationship extends well beyond any one project - it may span decades. Because of this long-term relationship sureties have access to performance and financial data not readily available to a contractor. In addition, sureties typically have a well-defined

Surety Bond Advantages

- 3rd Party Prequalification
- Performance Protection
- Payment Protection
- Contract Coverage Limits
- 1st Dollar Coverage
- Claim Service
- Ownership Commitment

and proven underwriting process that is executed by a risk department with years of experience prequalifying subcontractors. At the conclusion of that qualification process, they possess the skill needed to translate the subcontractor's financial and performance data into project and aggregate bonding limits (Nelson 2007a, Nelson 2007b, Schubert 2002b).

Performance Protection: In the event of subcontractor default the surety has responsibility to remedy the default. The surety may find it appropriate to finance and/or supplement the defaulting subcontractor, bring in a replacement subcontractor, or negotiate a financial settlement with the contractor (SIO 2007b).

Payment Protection: A payment bond provides protection should a subcontractor fail to pay sub-subcontractors, suppliers, and/or labor. In the event of subcontractor default, the surety assumes responsibility for dealing with unpaid creditors (SIO 2007a).

Coverage Limits: When performance and payment bonds are used together, combined coverage equals 200% of contract value - 100% of contract value for contractor performance and 100% for the contractor's payment obligations (Nelson 2007a).

First Dollar Coverage: In the event of subcontractor default, bonds provide first dollar coverage for loss. There is no deductible for claims made against the bond (Nelson, 2007a).

Claim Service: Sureties have experienced risk management personnel that can respond to claims made against the bond and provide assistance to remedy subcontractor default (Nelson 2007a).

Ownership Commitment: Most sureties require personal and corporate indemnity. Assets of the firm and the personal assets of company ownership are pledged to the surety as a precondition for surety credit. Ownership has a vested interest in ensuring operational performance and payment of the firm's obligations on bonded projects (Nelson 2007a). In other words, the indemnity arrangement provides incentive to construction executives to resolve project problems – an incentive that may not be present with the use of other risk transfer mechanisms.

Concerns Regarding Surety Bonds

Criticism voiced regarding surety bonds generally focuses around two primary concerns: a) the length of time for surety response to a default, and b) the narrow perspective of the surety's response (Gray 2002).

Extended/delayed response: An often voiced criticism of subcontractor bonds is the length of time required for the surety to initiate a remedy for the default of a subcontractor. Upon notice of the principal's default the surety is obligated to conduct a thorough investigation to determine the extent of their principal's liability and the legitimacy of the default by developing a factual record. If the surety fails to properly investigate a bond claim, the surety may be subject to and liable for claims of bad faith or unfair trade practices.

The length of time required for this investigation is influenced by a number of variables which become even more complicated should the principal be financially insolvent. With the exception of very simple cases, the surety's investigation may take weeks, or even months, during which time repercussions of the subcontractor default may be rippling throughout the project (ENR 2004, Gray 2002). Response time is often extended because the parties are in dispute regarding responsibility for the default, impact to the project, and/or the actions needed to remedy the default (Ferrini 2006). The surety may ultimately be

liable for the adverse effects of a delayed response, but in the interim the adverse effects on project schedule and cost continue to build (ENR 2004).

Narrow Perspective of the Surety/ Lack of Control: Once the surety has completed its investigation it has the authority to decide how to remedy the problem. The contractor may be consulted, but the ultimate response is at the discretion of the surety. Business considerations and contractual relationships of the parties dictate that the surety must first protect their interest and then that of their client (the principal). Unless the obligee's (the contractor's) interests coincide with the surety's and their principal the needs of the contractor and/or the project may be the last to be considered. As a result, with the surety's remedy having been formulated from the perspective of their principal (the subcontractor), the remedy may not fully address the needs or concerns of the contractor or the project (Gray 2002).

SUBCONTRACTOR DEFAULT INSURANCE (SDI)

Origination of SubGuard

Largely because of the concerns that various contractors had with surety response to subcontractor default, an alternative product was introduced into the market in 1996 – Subcontractor Default Insurance. Subcontractor Default Insurance (SDI) is a catastrophic insurance policy that provides coverage to the general contractor for the direct and indirect cost of subcontractor and supplier default. Zurich Insurance Company developed the original SDI product (SubGuard[®]) and other than a brief entry into the SDI market by one other insurer in the late nineties, Zurich (through its subsidiary company Steadfast Insurance Company, a surplus lines insurer) remains the only writer of subcontractor default insurance (Higgins 2007). For a short time Zurich considered offering PrimeGuard, which was similar to SubGuard[®] except it provided default insurance for *both* the subcontractor and the prime contractor. Zurich also launched an insurance product called OwnerGuard which has had limited application since its inception and is essentially no longer available except in special situations (Charney 2004).

Zürich's stated objectives with SubGuard[®] were to: "a) expand the existing market or create a new one (prior to the implementation of SubGuard[®], many clients only selectively bonded subs or didn't bond them at all), b) help contractors become better managers of risk, c) to improve a client's ability to complete a project on time and on budget, and d) provide catastrophic protection against the risk of subcontractor default" (Zurich 2007a p21).

One of Zurich's primary objectives in the creation of Subcontractor Default Insurance was to respond to the perceived shortcoming of surety bonds by providing the contractor greater control and flexibility in the management of subcontractor default. SubGuard[®] expanded the options available to manage the risk of subcontractor performance (Zurich 2007b). In contracting, risk management insurance policy options typically permit the contractor to retain varying degrees of risk ranging from 100% risk transfer to 100% risk retention. As shown in Figure 4, these insurance options typically include: a) pay a set premium and have all losses paid by the insurer, b) select a retrospectively rated program where the final premium is based upon losses incurred, c) choose a large deductible policy that only provides protection against catastrophic loss, d) develop a captive insurance program, or e) self-insure against all losses (Trethewey 2008).

However, prior to subcontractor default insurance (SubGuard[®]), contractors essentially only had two risk management options for subcontractor performance: a) 100% risk transfer with a bond, or b) 100% risk retention for subcontractor performance without a bond. SubGuard[®] filled the 'gap' between bonding and not bonding. It permitted contractors to opt for an interim level of risk by retaining a portion of the risk for subcontractor performance while providing protection against catastrophic loss (Rowland 2007,

Trethewey 2008). However, expanded contractor control and flexibility is associated with increased financial risk and program management responsibility.

Figure 4: Risk Management Options

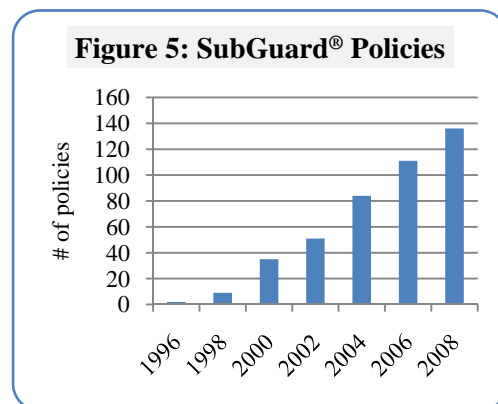
Risk Options	Insurance Options	Performance Coverage	
		w/o SubGuard®	w/ SubGuard®
Guaranteed Cost-100% risk transfer	Pay Premium and all losses paid by carrier	Bond	Bond
↓	Retrospectively Rated Insurance (premium based upon losses incurred)	↑	
↓	Large Deductible Insurance (catastrophic loss insurance)	Or	SubGuard
↓	Captive Insurance Program	↓	
No Coverage – 100% risk retained	Self-Insured	No Bond	No Bond

Target Market and Market Share

Because of the added financial risk and program requirements the targeted market for SubGuard® is large commercial and industrial contractors that have an annual subcontract value of greater than 75 million – typically the Engineering News Record (ENR) Top 400 (Zurich 2008b). Contractors suitable for the program are those who understand, accept, and are able to manage the additional responsibility associated with a catastrophic loss insurance program. The program is only suitable for firms that have the institutional knowledge and experience to effectively evaluate and prequalify subcontractors as well as the willingness and ability to accept the financial risk inherent with insurance coverage limited to catastrophic loss (Zurich 2007a, Trethewey 2008). It is only appropriate for contracting firms that are seeking greater control over the response to a default and those firms that also have the financial strength to absorb the deductible and co-pay liability should default occur (Gray 2002).

Success of the SubGuard® insurance program, for both Zurich and the contractor, largely depends on the quality and sophistication of the general contractor(s) in the program. The contractor’s ability to properly select and manage the subcontractors and suppliers enrolled in the program is essential to minimize/eliminate loss. Because of that, Zurich prequalifies contractors for the program. During this prequalification process the insurer evaluates a multitude of performance indicators including the firm’s financial strength and past performance, experience and expertise, project processes and controls, contracting method(s), references, and ownership/management stability. Once accepted into the program, the contractor’s operation is regularly reviewed to validate the firm’s continued operational effectiveness (Rowland 2000, Gray 2002, West).

Since the first SubGuard® policy issued in 1996 the program has seen significant growth and penetration of its targeted market. By January 2007 enrollment in the program included 17 of the top 30 ENR contractors, 45 of the top 100, and 100 of the top 400 ENR contractors (Zurich 2007a). As of early 2008, one hundred thirty-six (136) U.S. and Canadian contractors had a combined subcontractor and supplier enrolled value in excess of 35 billion (Zurich 2008a).



One of Zurich's stated objectives in launching the SubGuard[®] program was to expand the existing market of performance protection against subcontractor default. They purported that many contractors only selectively bonded subcontractors or not at all and SubGuard[®] would expand coverage rather than primarily siphon off bonding clients (Zurich 2007a). An evaluation of the data appears to lend some support to Zurich's position. From 1964 to 1995 surety premiums and non-residential construction had similar growth characteristics – they both increased an average of 6.8%/yr (current dollars). However, since the SubGuard[®] program has been in existence (1996-2007), non-residential construction growth slowed to 5.0%/yr while surety premiums increased an average of 9.1%/yr – almost twice the growth rate of commercial contraction (SFAA, US Census Bureau). “Bonding subcontracts is becoming increasingly common practice in the commercial construction industry. Many general contractors simply consider it prudent business policy to bond all subcontracts above a threshold dollar value” (Nelson 2007a p3).

Policy Coverage and Limits

SubGuard[®] is a two-party agreement between the contractor and the insurance company (Zurich) that provides catastrophic loss protection for subcontractor (and supplier) default. The agreement (policy) purchased by the contractor provides coverage for both the direct and indirect costs incurred to remedy a subcontractor default. Qualifying direct costs include those that are incurred in fulfilling the defaulting subcontractor's contractual obligations regarding performance or payment, correction of non-conforming work, and the cost of attorneys and consultant fees incurred to remedy the default or in the defense of any dispute with the defaulted subcontractor. Indirect costs covered by the policy include delay damages, acceleration cost, and extended overhead. For coverage to be initiated the subcontractor must be formally declared in default, but need not be terminated (Nelson 2007a, Zurich 2007a).

Policy exclusions include bonded subcontractors/suppliers, pre-existing defaulted subcontractors and suppliers, fraud, misrepresentation, material breach of warranty covenants by the contractor, nuclear or terrorism risk, professional services of the insured and bodily injury (Zurich 2007a).

Policy limits, deductibles, and co-pays vary based upon the risk profile acceptable to both the contractor and the insurer (Nelson 2007a). Negotiations every three years between Zurich and the contractor establish the framework and premium structure for the contractor's program and a policy establishing the legal relationship and coverage is executed on an annual basis. Each annual policy establishes the expected subcontractor enrollment volume and associated premium as well as the policy's deductible, co-pay, aggregate retention, single occurrence, and aggregate limits.

SubGuard[®] is not first dollar coverage but rather a type of self-insurance providing coverage for catastrophic loss. The contractor is responsible for all costs up to the policy deductible. The deductible is negotiable, but normally ranges from 350k to 2 million per occurrence (subcontractor default). Once the deductible is reached the co-pay layer applies for each occurrence. The co-pay layer typically ranges from 1 million to greater than 5 million. Costs falling within the co-pay layer are shared by the contractor and the carrier. Normally the contractor's portion is 20% of this layer (Charney 2004, Nelson 2007a). For example, a contractor with a \$500,000 deductible and a 20% co-pay on the next \$1,000,000 would be liable for up to \$700,000 for a single occurrence if costs resulting from the subcontractor default reached \$1,500,000. The SubGuard program is structured to ensure that the contractor has ‘skin in the game’ – a vested interest in minimizing loss.

An ‘occurrence’ is defined as the default of a subcontractor in a policy year. Multiple defaults by the same subcontractor enrolled on multiple projects in the same policy year are considered a single event or default. Therefore, in the preceding example if the subcontractor was enrolled in, and defaulted on, multiple projects in the same policy year the multiple defaults would be treated as a single event (a single occurrence) and the contractor's maximum exposure would remain at \$700,000.

Once the deductible and co-pay are satisfied (for each occurrence), Zurich is liable for any additional costs up to the single occurrence policy limit which can extend up to a maximum of \$50 million per occurrence.

Aggregate retention and aggregate limits are applicable should there be multiple defaults within a policy year. Withstanding the policy limits, the aggregate retention is the maximum dollar risk retained by the contractor for a policy year in the event of multiple defaults. It is normally 3-5 times the deductible. The aggregate limit is the maximum exposure for the carrier (Zurich) and currently can range up to \$150 million (Zurich 2008b).

Cost Structure

For both the insurer and the contractor, the pricing structure for a SubGuard[®] program assumes the inevitability of subcontractor default (McIntyre 2007). Contractor pricing of subcontractor default insurance (SDI) involves three primary components: a) a risk transfer premium paid to the insurer - Zurich, b) the cost to manage subcontractor/supplier prequalification and claims, and c) a loss sensitive premium to build up a reserve fund for anticipated future claims (Charney 2004, Higgins 2007).

With each annual renewal the contractor pays the insurer a fixed risk transfer fee based upon the anticipated subcontractor/supplier enrollment volume for that policy year. Its cost depends on a number of variables involved in the carrier's evaluation of the firm including financial strength and stability, profitability and loss record as well as policy deductible, co-pay terms, and occurrence and aggregate limits. The risk transfer premium paid the insurer generally approximates \$3.50/\$1000 (or .35%) of subcontract/purchase order enrollment value (Charney 2004, Higgins 2007).

The contractor's cost to administer the program, perform the prequalification of subcontractor and suppliers, and manage program claims is a program cost. However, contractor cost is often hard to quantify because often a portion, if not all, of the program duties are performed by existing management and staff. In addition, establishing an appropriate loss sensitive premium for the contractor's reserve pool is often problematic because of the lack of adequate loss history (Charney 2004, Higgins 2007).

Zurich closely guards information regarding loss history of the SubGuard[®] program. Even if they did publish claims and program losses to date representation of program risk would be incomplete because of the relative short history of the program. Seven years after the launch of the program there were approximately 300 claims and less than 15 of those were greater than the contractor's deductible (Charney 2004). Rowland (2007) submits that 15% of losses are due to inadequate prequalification, 75% are a result of the contractor's inadequate management of the subcontractor, and 10% because of poor management of the default process. However, the program has only been in existence for a little over a decade and Zurich's risk envelop can extend 10 years after substantial completion of the project. Adequate data necessary to validate the risk of the program for Zurich, as well as for the contractor, may not be readily apparent for years or even decades.

Regardless, SDI is normally priced to the project owner at, or slightly less, than a surety bond which is normally 1% to 1.25% of the subcontractor/supplier value. This would provide .65% to .90% of subcontract value for program administration and claims – or possible cost savings to the contractor if losses can be contained (Rowland 2000, Charney 2004, Higgins 2007). A contractor may or may not make a project owner aware of the difference between the contractor's pricing structure for SDI and the project cost charged to the project owner. Regardless, the owner's cost will include the contractor's assumptions for the costs of program administration and claims management.

Program Enrollment

With a bond the surety prequalifies the subcontractor. However, with SubGuard[®] the insurer prequalifies only the contractor for entry into, and continuing participation in, the SubGuard program. The general contractor has the responsibility of prequalifying the individual subcontractors and suppliers enrolled in the program. The contractor is given the latitude to determine which subcontractors and suppliers to enroll (Gentile 2005).

Enrollment in the program can be by one of two methods: 1) subcontractor or 2) project enrollment. Subcontractor enrollment places selected subcontractors in the program regardless of project affiliation. Project enrollment, the most common method, enrolls subcontractors and suppliers on a project specific basis. With project enrollment subcontractor/supplier coverage is associated with the policy year the project was enrolled in the SubGuard program, regardless of when the actual subcontracts were executed.

Claims Process

Coverage is triggered by the default of a subcontractor/supplier. The contractor prequalifies the subcontractors (and suppliers) and monitors their project performance. Should a subcontractor fail to perform, the contractor declares the subcontractor in default. The Subguard[®] policy defines default as: 'failure of the subcontractor/supplier to fulfill the terms of the covered subcontract or purchase order agreement as determined by you {contractor} or a legally binding authority' (Zurich 2003 p1). Subsequent to the declaration of default, the contractor proceeds as the firm deems appropriate to remedy the default. Approval or consultation with Zurich prior to proceeding with the remedy is not required. The insured maintains the control and flexibility to effectively remedy the default. The contractor must only provide written notification to Zurich within 30 days of the default event (McGreevy 2006, Gentile 2005).

The contractor documents the costs incurred remedying the default and in consultation with the carrier prepares the written documentation needed to support the contractor's loss. The burden is on the contractor to prove that they have complied with the terms and conditions of the policy for a recoverable loss. The contractor's 'proof of loss' documentation is submitted to Zurich. Completion of the insurer's review process and payment to the contractor is normally completed within 30 days. On losses extending over a period of time in excess of 30 days the contractor can submit and receive multiple/interim payments (Zurich 2003, 2007a, 2008b). The contractor is reimbursed by the insurer only after the subcontractor balance and policy deductible are expended (Charney 2004).

Coverage does not end at the expiration of a policy year. The policy can have up to a 10 year tail (Nelson 2007a). Submission of the 'proof of loss' documentation must be made the earlier of: a) the statute of repose, b) expiration of any right to seek recovery from the defaulted party, or c) 10 years after substantial completion (Zurich 2003).

Losses that exceed the contractor's deductible may be pursued in subrogation by the carrier and any recovery is paid to the insurer first. In addition, if the default is later determined to be improper, the contractor is required to reimburse the carrier all payments made to the contractor (Zurich 2003, Higgins 2007).

Contractor Advantages

The advantages and disadvantages of SDI versus surety bonds depend on one's perspective. The program has unique pros and cons, risks and rewards for each of the parties involved in the construction process. As a result, contractors, subcontractors, sub-subcontractors, suppliers, owners, and brokers have varying opinions on its application.

From a contractor's perspective the purported advantages tend to fall into four primary categories: coverage limit, control, consistency, and cost savings.

Coverage Limit: Unlike a surety bond where coverage is limited to the penal sum, SDI coverage is not limited to the value of the subcontract. SDI coverage extends up to the limits of the policy which can range up to \$50 million/occurrence (Gentile 2005, Nelson 2007a, Zurich 2003). Consider for example a contractor with a \$200,000 roofing subcontractor that performs poorly and causes \$2,000,000 in damages and delays to the project. Even with a \$500,000 deductible and a \$1,000,000 – 20% co-pay layer, reimbursement to the contractor with an SDI policy would be \$1,300,000 (\$2,000,000 - \$500,000 - 20% x \$1,000,000), or greater than 6 times the amount if bonded.

Contractor Advantages

- Coverage Limit
- Control
- Consistency
- Cost Savings

Contractor Control: With an SDI program the contractor has control over which subcontractors and suppliers are enrolled in the program. The SDI program also permits the contractor to exercise its judgment on how to remedy a subcontractor or supplier default. Most all of the contractors suitable for an SDI program have a well-developed process to screen out unqualified subcontractors and suppliers. The SDI program provides an added incentive for the contractor to improve their prequalification process (Pruitt 2004, Nelson 2007a). The contractor has additional inducement to evaluate capability, rather than just 'bondability' (Zurich 2007b). In the event of default, with SDI the contractor does not need to wait for a surety's investigation prior to response. It can take immediate action to implement a remedy it deems appropriate to resolve the default (McIntyre 2007). Program proponents submit this control and flexibility allows the contractor to proactively and more effectively manage the default within the framework of total project time and budgetary needs (Zurich 2007b).

Consistency: SDI replaces a three party agreement that the contractor may have with a variety of sureties, on multiple projects, with a first party relationship between the contractor and the insurer for all the projects enrolled in the program (Gray 2002). With SubGuard[®], there is one policy and one set of terms and conditions. Proponents argue that a SDI program promotes a non-adversarial relationship, reduces administrative cost, improves the effectiveness of response to a default, and enhances the efficiency of the claims process (Gray 2002, Nelson 2007a, Zurich 2008b).

Cost Savings: The cost of a surety bond for a project is fixed and exceptional performance (minimization of loss) will not yield a rebate. With SubGuard[®], the contractor pays a fixed premium rate that is substantially below the cost of a bond, and should the contractor effectively manage program risk reducing, or eliminating loss, the contractor can reap significant financial reward (Gray 2002). Proponents submit that SDI contractors have an added incentive to improve the prequalification process and tend to be more risk averse in their subcontractor/suppliers selections than competitors using bonds (Nelson 2007a).

Contractor Disadvantages

From a contractor's perspective critics submit the primary disadvantages of a SDI program include: financial risk, increased responsibility, and legal precedence.

Financial Risk: SDI provides coverage for catastrophic loss and policies have substantial deductible and co-pay requirements for each occurrence. A contractor experiencing multiple defaults, involving several subcontractors in the same policy year, could have financial exposure in the millions (Schubert 2002b). In addition, SDI policies have occurrence and aggregate limits that could pose significant risk for a contractor with a portfolio of large projects and/or large subcontractors. For example, a contractor with a \$500m annual subcontract volume can have a maximum of \$150m coverage with SubGuard. In contrast,

with 100% use of surety bonds, the combined coverage for that same contractor is \$500m, or one billion considering both the performance and payment protection provided with bonding.

Contractor Disadvantages

- Financial Risk
- Increased Responsibility
- Legal Precedence
- Single Insurer/Surplus Line

Increased Responsibility: A purported benefit, contractor flexibility and control, can also become a program liability. By the nature of the program, the contractor is provided minimal assistance and guidance regarding subcontractor/supplier selection, default declaration and remedy, and claim preparation. The program places the responsibility and burden of managing these variables on the contractor. Critics submit that sureties are more capable of prequalifying subcontractors and suppliers. In addition, any subcontractor/supplier default is subject to judicial and insurer

review. If the contractor declares a default that is later found to be inappropriate, or the actions taken by the contractor are found to be unwarranted, the contractor will be held liable (Gray 2002, McIntyre 2007). The ease with which a contractor can place a subcontractor in default can provide a false sense of security and/or dampen the contractor's efforts to resolve a dispute(s) with a problem subcontractor (Charney 2004).

Legal Precedence: Complicating the contractor's decision process in management of program risk is the lack of legal certainty, or precedence, regarding enforcement of policy terms and conditions. There have been no known legal decisions regarding a policy dispute between a contractor and the insurer (Schubert 2002b, Gentile 2005), and little is known regarding the loss history of the program or of disputes arising from default declarations and/or claim settlements (McIntyre 2007).

Single Insurer/Surplus Lines Basis: At present, all SDI risk is aggregated in one insurer, since only one insurer offers the coverage. Moreover, subcontractor default insurance is sold on a surplus lines basis. Surplus lines insurance is coverage that is legally placed by an insurance company that is not admitted or authorized for that business in a jurisdiction. Surplus lines insurance usually must be placed through a producer or agent licensed to place such insurance. As a non-admitted insurer, the surplus lines insurer may not be subject to many of the laws and regulations pertaining to insurers in the jurisdiction, and insured may not have access to the recovery or guarantee fund, if any, in the jurisdiction in the event that the surplus lines insurer becomes insolvent.

Subcontractor/Supplier Perspective

Subcontractors/suppliers have mixed reactions to SDI. A positive from their perspective is that enrollment on a SubGuard® project may not tap their available bonding capacity or require personal indemnity. However, with SDI the subcontractor/supplier has less payment protection, can be subjected to an invasive contractor prequalification process, has less protection against arbitrary or unwarranted default declarations, and is subjected to a selection process that can have disincentives for project participation (McIntyre 2007, Nelson 2007a, SIO 2007a).

Payment Protection: Unlike a subcontractor bond, the SDI policy does not provide payment protection for 2nd tier subcontractors or suppliers (McIntyre 2007). In addition, if the general contractor becomes insolvent, or just refuses to pay, an enrolled subcontractor has no recourse against SubGuard® (McGreevy 2006).

Subcontractor Concerns

- Less Payment Protection
- Prequalification Process
- Unwarranted Default
- Selection Incentives

Prequalification Process: Prior to enrollment in the SDI program a subcontractor must submit to the contractor's prequalification process for each and every contractor that utilizes SDI. There are no universal industry standards and the process varies from contractor to contractor. It can require the subcontractor to share sensitive information that may be misinterpreted, adversely impact its competitive position, and/or damage the subcontractor's reputation if divulged (McGreevy 2006, Downs 2005).

Unwarranted Default: With SDI, the contractor can unilaterally declare a subcontractor in default. There is no independent third party assessment of cause or remedy (McIntyre 2007, SIO 2007a). The contractor can declare a subcontractor in default, implement what they deem as appropriate action, and assess the incurred cost against the subcontractor. The subcontractor has little leverage or recourse except through litigation (Ness 2005, McIntyre 2007).

Subcontractor Selection Incentives: There is an incentive with a SDI program to use subcontractors already enrolled in the program because each new subcontractor added in a policy year has a separate deductible. A subcontractor already enrolled in the program has a competitive advantage. In addition, since the contractor retains substantial financial risk for subcontractor performance, there is a disincentive to accept the additional risk of contracting with subcontractors or vendors unknown to the contractor (McGreevy 2006, McIntyre 2007).

Owner Perspective

Many owners do not fully understand subcontractor default insurance and are unable to compare this insurance product with surety bonds. However, those with at least a rudimentary understanding or experience view the product with mixed opinion and concern.

Owners are told by their contractor that SDI gives the contractor greater flexibility and control to more effectively deal with poor subcontractor performance and subcontractor default. They are advised that this will help ensure that their project will be completed on time and within budget – both certainly desirable outcomes for the owner. Proponents submit that the owner will also directly, or indirectly, benefit from the higher per occurrence limits afforded by SDI. Some will also claim that SDI broadens the pool of subcontractors by permitting small local firms, minority subcontractors, and other firms that may not have the bonding capacity (Nelson 2007a).

Critics of SDI note that the owner does not have the subcontractor/supplier payment protection inherent with a surety bond. They purport that surety bonds ensure better quality subcontractors for their project, and higher coverage limits on larger work. In addition, bond supporters claim the project will be priced more competitively because bids from unfamiliar subcontractors/vendors will increase competition. Most owners see no significant difference in cost between surety bonds and SDI and some question why they don't share in the cost savings should the project have a good loss history (Schubert 2002b, McGreevy 2006).

Some owners (and contractors) are also concerned as to whether or not SDI is acceptable for use on public projects. Critics argue that SDI does not satisfy the claim rights and payment protections mandated by the federal Miller Act and similar legislation enacted by state and local authorities (McIntyre 2007, Gentile 2005). In instances where a contractor charges the federal government more than its direct cost of the insurance, the contractor may be construed to violate certain federal statutes, such as the False Claims Act. Concern is heightened as a result of a court decision in favor of the government in *Morse Diesel International v. United States* (Peckar & Abramson 2006, Chambers 2008).

RESEARCH OBJECTIVE AND METHODOLOGY

Research Objective:

The insight and opinions of scholars, practitioners, and subject matter experts vary – often based upon one’s perspective and/or contractual responsibility. Proponents suggest that Subcontractor Default Insurance addresses the shortcomings of surety bonds while increasing coverage and reducing cost. Critics of SDI submit that it has an invasive prequalification process, lacks payment protection for subcontractors and owners, allows the contractor to be sole judge and jury regarding subcontractor default, and is not suitable for public work.

SDI is a recently developed concept, and SubGuard® is a relatively new product with little more than a decade of use and loss history. As a result, very little data evaluating its use and application versus surety bonds is available – outside that collected by the sole insurer with an SDI program, Zurich.

Therefore, the primary purpose of this study is to investigate Subcontractor Default Insurance in order to:

- Define and identify the features of SDI, including policy coverage and exclusions.
- Identify the current use of SDI, including the # of contractors and approximate premium volume.
- Differentiate SDI from subcontract surety bonds.
- Identify the advantages and disadvantages of SDI as compared to surety bonds.
- Identify the direct and indirect costs associated with SDI.
- Investigate the loss history associated with SDI.
- Identify the issues and impacts that the use of SDI has on owners, contractors, and subcontractors.
- Identify direct or indirect constraints on SDI in public versus private construction markets.

Research Methodology

Overview: The research design incorporates two ‘basic’ approaches to address the research objectives: 1) data will be obtained from a broad and representative sample of each population using a self-administered survey instrument, and 2) the practices and insight from a small sampling will be examined in greater detail.

Survey Instrument: A self-administered survey will be (was) developed to obtain input from a sampling of each study population using both closed-end and open-ended response options. The survey instrument was designed using a Lickert scale for most of the closed-end responses and short answer or essay format for response to the open-ended questions.

The survey instrument was pilot tested and needed refinements were incorporated. When completed, the survey instrument contained a total of 121 questions with both closed and/or open-ended response options. A breakdown of the topics and the number of questions for each is as follows: company information (10), surety bonds (21), subcontractor default insurance (38), surety bond and SDI comparison (19), contractor SubGuard program experience (18), contact information and general comments (3), and contractors reasons to reject SDI (12).

Sample Selection: Data for this study was solicited from general contractors, subcontractors, construction managers, owners, and bond producers. A probabilistic sampling for each category was selected as follows:

- *General Contractors:* All contractors listed in ENR's 2008 listing of the Top 400 Contractors with the majority of their work in 'General Building' or 'Industrial' were included in the sample. This was supplemented with Dun & Bradstreet's current listing of general contractors with greater than 160 million annual volume.
- *Subcontractors:* The sample included the members of the American Subcontractors Association (ASA) listed in its 2008 Membership Roster.
- *Owners:* The sampling of owners included: a) the highest-ranking construction official within each State Department of Transportation (DOT), including the District of Columbia, b) all members of the Construction Owners Association of America (COAA) as listed in its 2008 Membership Listing, and c) a random sampling of the APPA-Leadership in Educational Facilities 2007-08 Membership Directory.
- *Bond Producers:* The members of the National Association of Surety Bond Producers as recorded in its 2008 Membership Listing.

FINDINGS AND ANALYSIS

Survey Response & Statistical Testing and Analysis

The questionnaire was developed to provide information on both subcontractor surety bonds and subcontractor default insurance. Survey questions addressed five primary categories of inquiry: 1) subcontractor prequalification, 2) subcontractor default response, 3) SDI cost, pricing, and coverage, 4) risk management, and 5) subcontractor participation. Survey responses were subjected to statistical means testing using a confidence level of 95%. T-tests with an $\sigma = .05$ (assuming unequal variances) were conducted between selected samples of the respondent groups. In the following pages the findings and analysis for the five primary categories of inquiry are presented for each of the four respondent groups: a) CM/GC's, b) subcontractors, c) bond producers and sureties, and d) owners.

Table 1: Survey Response

Sample	Usable Responses
Bond Producers	130
Sureties	32
CM/GC's	79
Subcontractors	116
Owners	49
Total	406

As of the cutoff date for the survey four hundred six (406) usable responses were received. The distribution of response is shown in Table 1.

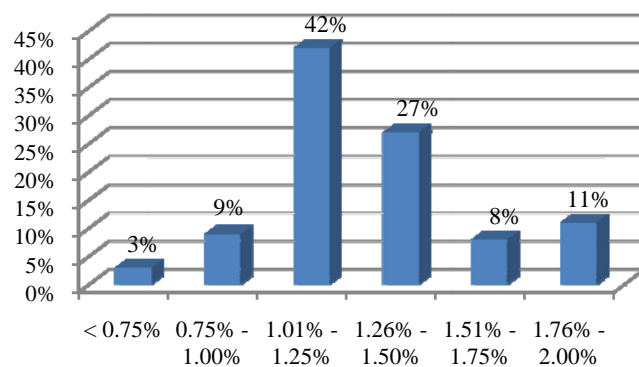
Construction Managers at Risk and General Contractors (CM/GC)

Seventy-nine (79) usable responses were received from contractors (construction managers at risk and general contractors). Seventy-two percent (72.2%) of the contractor respondents have experience with SDI (SubGuard®). Another sixteen percent (16.5%) had evaluated SubGuard® but decided not to participate in the program. The annual volume of contractors with SDI program experience ranged from \$115 million (m) to \$7 billion (b) with an average of \$1,269m. The annual volume of contractors with no SDI experience ranged from \$15m to \$4b with an average of 585m. Contractors with a SubGuard® program have a statistically significant larger annual volume than those without SDI experience. The majority of the contractors with a SDI program operate on a regional or national basis (36.8% and 35.1% respectively). The remaining firms are evenly distributed between a local, statewide, or global area of operation. The distribution is similar for contractors without a SubGuard® program.

SDI Experience vs. No SDI Experience

Contractors with SDI experience perform a significantly lower percentage of government work (21% vs. 41%) and negotiate a higher percentage of their annual volume than contractors without a SDI program (72% vs. 43%). SDI contractors themselves are bonded on a significantly lower percentage of their annual volume (38%) than non-SDI contractors (63%). However, the percentage of subcontract volume that SDI contractors bond (45%) is similar to non-SDI firms (47%). Sixty percent (60.2%) of

Figure 6: Subcontractor Bonding Rate



all contractors have a subcontractor bonding threshold – a single subcontract value above which the subcontractor must be bonded. Excluding a single outlier, the subcontract value threshold ranges from 50k to 500k with an average of \$162,000. The most common threshold shared by 50% of the respondents is 100k. The average subcontractor bonding rate distribution for all contractors is shown in Figure 6.

CM/GC Response Analysis

A summary of the statistical findings of the survey responses from construction managers at risk and general contractors is as follows.

Subcontractor Prequalification Process: SDI contractors believe that surety prequalification of subcontractors is an advantage of surety bonding and subcontractor bondability is typically a prerequisite for enrollment in their SubGuard® program. However, contractors do not think that sureties can better assess subcontractor capability and capacity. They do not believe that sureties are more capable than they are to prequalify subcontractors.

Contractors do not judge their prequalification process as invasive or an administrative burden on the subcontractor. Ninety-one percent of the contractors with an SDI program assert that contractors have a policy to protect the privacy of the sub's information. In addition, they claim that the subcontractor's financial information is not misused, misinterpreted, nor used to adversely impact the subcontractor's competitive position.

Subcontractor Default Response: In the event of subcontractor default, SDI contractors assert that sureties do not respond in a timely fashion nor address their needs or concerns. They submit the surety typically does not execute a remedy that minimizes project cost for the owner/GC nor one that minimizes project delay. Approximately 87% of the SDI contractors share this opinion. Even amongst non-SDI contractors, less than 10% of the firms believe that sureties are responsive and execute remedies that minimize project cost and delay.

Conversely, greater than eighty percent of SDI contractors assert that SDI improves their ability to complete a project within budget and on time in the event of subcontractor default. Ninety-eight percent (98%) indicated that SDI affords them greater control and flexibility to manage a default. For a significant number of respondents, contractor control (95%), first party relationship with the insurer (84%), and dissatisfaction with surety response to subcontractor default (82%) were important considerations in their decision to initiate a SDI program.

Cost, Pricing and Coverage: Contractors agree that possible cost saving is a significant incentive influencing their use of SDI. However, they submit that SDI also provides cost savings to the project owner because subcontractor bonds are typically more costly than SDI coverage. Only eleven percent (11%) of SDI contractors disagree with the statement 'SDI is priced to the project owner at, or slightly less, than surety bonds'. Contractors also claim that their project owners are made aware of the pricing structure for SDI.

SDI contractors believe that SubGuard® provides better coverage for subcontractor risk on larger projects (only 13% disagreed with this assertion). Compared to surety bonds, they submit that SDI coverage limits are greater and the coverage tail (the length of time coverage extends past project completion) is typically longer with SDI (only 4% disagreed). Eighty percent (80%) of the contractors indicated that SDI's expanded subcontractor coverage limits were an important consideration in their decision to implement a SubGuard® program.

Contractors assert that owners do not prefer surety bonds. They do not believe that bonds provide the project owner with better subcontractor payment protection nor do they think that the project owner's financial risk is increased with the use of SDI. However, they do view payment protection for suppliers and 2nd tier subcontractors as an advantage of surety bonds.

Eighty percent (80%) of all contractors and eighty-seven percent (87%) of only those contractors with a SubGuard[®] program do not think surety bonds are a good value. The vast majority of SDI contractors are satisfied with their SubGuard[®] program with only 2% indicating dissatisfaction.

Risk Management: SDI contractors submit that the program provides an incentive to improve its subcontractor prequalification process. They do not consider the large deductible as a deterrent to its use. However, it was a deterrent for those contractors that had evaluated SDI and elected not to participate in the program.

Eighty-six percent (86%) of SDI contractors believe that the program helps them become better managers of subcontractor risk and enhances their ability to more proactively manage poor sub performance. They do not think that the use of SDI dampens their efforts to resolve subcontractor disputes nor increase the likelihood of unwarranted default. Contractors disagree that SDI affords a defaulted subcontractor little leverage or recourse except through litigation. Collectively, they assert that its use does not pose a False Claims Act liability on federal work. Contractors with greater than 20% of their annual volume consisting of government work more strongly agree with this assertion. SDI contractors also submit that the lack of case law does not discourage the use of SDI. However, contractors evaluating the program considered it a deterrent.

Subcontractor Participation: SDI contractors claim the use of SDI broadens the pool of subcontractors for a project, in part because it encourages the use of small and minority subs that cannot obtain bonding. Conversely, they do not believe bonding increases subcontractor competition for a project nor does it ensure the participation of better quality subcontractors. Contractors assert that SDI does not create a disincentive to use subcontractors not already enrolled in their SubGuard program. They also believe that most subs would rather be enrolled in SDI than furnish a bond, in part because they think that SDI enrollment does not tap the subcontractor's bonding capacity.

Subcontractors

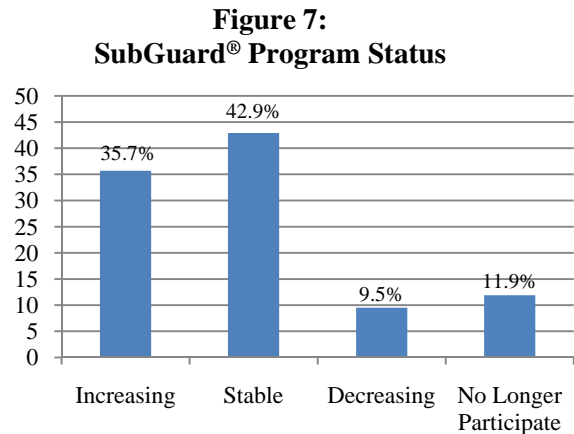
One hundred sixteen (116) usable responses were received from subcontractors. The annual volume of subcontractors with SDI program experience ranged from \$0.1 to \$850 million (m) with an average of \$46.0m. The annual volume of subcontractors with no SDI experience ranged from \$.7 to \$400m with an average of 32.3m. When the outliers for each group are excluded, the average annual volume is 28.1m and 11.5m respectively. Excluding the outliers, the annual volume of subcontractors with SDI experience is significantly larger than subcontractors without SDI experience.

Subcontractor Program Knowledge and Status

Sixty percent (60%) of the subcontractor respondents had experience with, or knowledge of, SubGuard[®]. The response distribution included forty-two percent (42%) with previous and/or current enrollment in a SubGuard[®] program, sixteen percent (16%) with SDI knowledge, and forty-one percent (41%) with no SDI experience or program knowledge. Most subcontractors (77%) with direct program experience, had their initial enrollment since 2004 and almost half (49%) were first exposed to SubGuard[®] within the past 3 years.

For participating subcontractors, the percentage of their current annual volume enrolled in SubGuard® ranged from 0% to 90% with an average of 32.7%. Statistical analysis revealed no relationship between the percentage of annual enrollment and: a) subcontractor size, b) percentage of government work, or c) percentage of negotiated work.

As shown in Figure 7: SubGuard® Program Status, seventy-nine percent (79%) of the subcontractors with SubGuard® exposure have experienced increasing or stable enrollment. Conversely, one in ten has seen an enrollment decrease and 12% of the respondents no longer participate in the program.



Subcontractor Response Analysis

Similar to the other respondent groups, subcontractor data was subjected to statistical analysis. Responses were means tested and sub-categories of this respondent group were statistically compared. Analysis of the responses revealed minimal statistical difference of opinion between subcontractors with previous, or current, enrollment in a SubGuard® program and those with no program experience. Any differences are noted. In addition, firm size, the percentage of government work, and the percentage of negotiated work had no significant impact on the respondent’s opinion of surety bonds or SDI.

Subcontractor Prequalification: Subcontractors believe surety prequalification is an advantage of surety bonds. They also think that sureties have better access to sub performance and financial data and can better translate this data into individual and aggregate bonding limits. However, subcontractors do not support the assertion that sureties can better assess subcontractor capability and capacity or are more capable than contractors to prequalify subcontractors.

Subcontractors judge the contractor’s SDI prequalification process to be less extensive if the subcontractor is ‘bondable’. Regardless, they view the contractor’s prequalification process as invasive (73%) and an administrative burden (87%). Subcontractors believe the process requires them to share sensitive financial information that the contractor may misinterpret and misuse (84%), or use to adversely impact their competitive position (70%). However, forty-three percent (43%) of the respondents felt that contractors have a policy to protect the privacy of their financial information. Conversely, twenty-five (25%) of the respondents thought the contractors did not have an effective policy.

Subcontractor Default Response: Subcontractors think that SDI gives the contractor greater leverage over a defaulted subcontractor. They consider 1st dollar coverage for default and surety resources/assistance to be advantages of surety bonds. With the exception of these variables, subcontractors are neutral (mean response was neither agree nor disagree) regarding the remaining questions on subcontractor default.

However, a closer examination of the subcontractor survey data reveals a lack of support for surety response to subcontractor default. A minority of subcontractors agree that sureties: a) respond in a timely fashion (37%), b) execute a remedy to minimize project delay (31%), or c) address the needs and concerns of the contractor (31%). In addition, only 21% believe that the surety executes a remedy that minimizes project cost for the owner and/or the contractor.

Cost, Pricing and Coverage: Two-thirds of subcontractors with SDI experience believe that possible cost savings is a significant GC incentive influencing SDI's use. They purport that SDI is priced to the owner at, or slightly less, than surety bonds. However, they believe that owners are not made aware of the pricing structure for SDI on their projects. Only ten percent (10%) think that owners understand the advantages and disadvantages of SDI.

Subcontractors believe bonds provide better coverage for subcontractor risk. They also submit that bonds provide better sub and supplier payment protection for the owner. Overall, they view bonds as a good value. Conversely, subcontractors are dissatisfied with SDI. Only twenty percent (20%) of the subcontractor respondents with SDI exposure are satisfied with the program.

Risk Management: In the event of a default, subcontractors believe that SDI provides them minimal leverage or recourse except through litigation. They think that the ease of default declaration gives the contractor a false sense of security. Subcontractors submit that SDI does not satisfy claim rights and payment protections mandated by the Miller Act and may pose legal problems on public construction projects.

Subcontractor Participation: Subcontractors submit that most subs would prefer to furnish a surety bond. They think bonds ensure better quality subcontractors and suppliers. Subcontractors think that SDI encourages the use of small and minority subcontractors that cannot obtain bonding. They also do not believe that bonding increases subcontractor competition for a project.

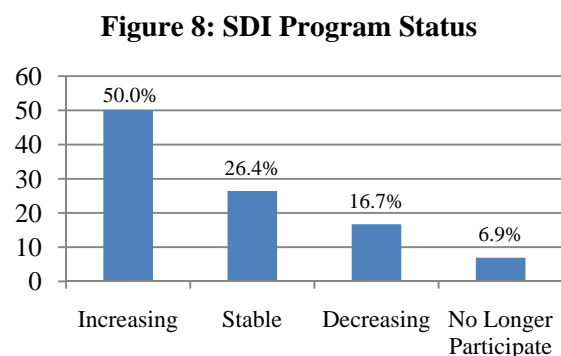
Bond Producers

One hundred thirty (130) usable responses were received from bond producers and thirty-two (32) from surety representatives. Since only one surety offers subcontractor default insurance, a majority of the surety respondents appear to be representatives or associates of this sole insurer. With a few minor exceptions, surety response is similar to that received from SDI contractors. The insurer that is offering SDI, and those contractors that have initiated the program, typically have the same opinions and assessment of SDI and surety bonds. Conversely, surety response is often at odds with that shared by bond producers. Therefore, analyzing sureties and bond producers collectively as a group would be inappropriate. Consequently, the following findings are limited to bond producers.

Bond Producer Program Experience and Status

Two-thirds (67%) of the bond producers responding to the survey had direct experience with SDI. SubGuard[®] had been used on some or all of their clients' projects. Almost half, (47%) were exposed to, or started offering, SDI prior to 2000. Greater than ninety percent (90%) of these bond producers had more than four years of experience with the product. Combined, the respondents had an average of seven years of experience with SDI.

Their average annual subcontractor value enrolled in SDI ranged from 2% to 100% with a mean value of 34%. A majority of the bond producers indicated that the use of SDI was stable or expanding. As shown in Figure 8: SDI Program Status, 76.4% of the bond producers with SDI experience indicated that enrollment in SDI was increasing or stable.



Approximately seventeen percent (16.7%) had reduced enrollment and only 6.9% no longer participated in the SubGuard® program.

Response Analysis - Bond Producers

As previously noted, the questionnaire was developed to provide insight into five primary categories: 1) subcontractor prequalification, 2) subcontractor default response, 3) cost, pricing, and coverage, 4) risk management, and 5) subcontractor participation. A statistical evaluation of the responses from bond producers yields the following findings.

Subcontractor Prequalification: Bond producers submit that sureties have better access to subcontractor performance and financial data and are more capable to prequalify subcontractors. They believe that sureties can better assess sub capability and capacity, in part because they do not think contractors possess the skill to translate sub financial and performance data into project and aggregate bonding limits. Bond producers view surety prequalification services as an advantage for surety bonding services.

Bond producers with SDI experience purport that subcontractor bondability is typically a prerequisite for enrollment in a SDI program and bond producers are reluctant to provide ‘Sunshine Letters’. They submit that a SDI program requires the contractor to have a more intensive sub prequalification process and they judge this process to be invasive and an administrative burden on the subcontractor. In addition, approximately two-thirds of the respondents believe the process requires subcontractors to share sensitive financial information that may adversely impact their competitive position or be misinterpreted or misused by the contractor.

Subcontractor Default Response: Collectively, bond producers view surety claim service, surety responsibility for default remedy, and first dollar coverage as advantages of surety bonds. In the event of subcontractor default, they neither agree, nor disagree, with the assertion that the surety “is responsive and executes a remedy that minimizes project delay”.

Bond producers without SDI experience believe that surety response to subcontractor default is timely, addresses the needs and concerns of the general contractor, and minimizes project cost for the GC and owner. However, bond producers with SDI program experience do not statistically support that assertion. A majority think the surety responds in a timely fashion, but only about a third (38%) of the bond producers agree that the surety addresses the needs and concerns of the GC and executes a remedy that minimizes project delay. In addition, bond producers with program experience submit that SDI gives the contractors greater control and flexibility to manage sub default and improves a contractor’s ability to complete a project on time. A majority of these bond producers judge contractor control (77%), first party relationship with the insurer (54%), and dissatisfaction with surety response to subcontractor default (72%) as important factors in the decision to implement SubGuard®.

Cost, Pricing and Coverage: Bond producers believe that subcontractor payment and performance bonds are a good value and preferred by owners over SDI. They submit that protection for subcontractor performance and payment protection for suppliers and second tier subs are advantages of surety bonds.

Bond producers with SDI experience suggest that possible cost savings is a significant contractor incentive influencing SDI’s use. They support the assertion that SDI is priced to the owner at, or slightly less, than surety bonds. These bond producers do not believe that SDI provides increased coverage limits for a defaulted subcontractor. Bond producers assert that bonds provide better coverage on larger projects and better payment protection for the owner. They judge owner financial risk to be increased with the use

of SDI and eighty-one percent (81%) think that most owners do not understand the advantages and disadvantages of SDI.

Risk Management: Knowledgeable bond producers believe that a SDI program provides an incentive for the contractor to improve its subcontractor prequalification process. They think it encourages the contractor to more proactively manage poor subcontractor performance and become better managers of subcontractor risk. However, two thirds (69%) submit that SDI carries greater financial risk for the contractor.

Bond producers don't feel that the lack of legal precedence discourages the use of SDI. However, they believe it does not satisfy the claim rights and payment protections mandated on public work. A significant majority (72%) think its use poses legal problems/challenges on public work.

Subcontractor Participation: Bond producers (68%) think bonds ensure better quality subcontractors for the project. They believe that most subcontractors would rather furnish a bond than be enrolled in a SDI program. Bond producers disagree with the assertion that "enrollment in a SDI program is an advantage for a subcontractor because it does not tap the sub's bonding capacity". They do not believe that a SDI program creates a disincentive for a GC to use subcontractors not already enrolled but they do feel that use of the program creates a disincentive to use subcontractors unknown to the contractor.

Significant Differences – Increasing/Stable vs. Decreasing/No Longer Participating Programs: A statistical comparison between the 76% of the bond producer respondents with increasing or stable programs and the 24% that no longer participated or have decreasing program enrollment was undertaken. This analysis yielded several variances in program assessment. Bond producers that no longer participated or experienced decreasing enrollment were dissatisfied with the SDI program. They do not think SDI encourages contractors to become better managers of subcontractor risk and believe its use dampens contractor efforts to resolve disputes. These bond producers submit that the program does not encourage the use of small and minority subs that cannot get bonding and that project owners are typically not made aware of the pricing structure of the SDI program. In addition, they claim that in the event of subcontractor default, SDI does not improve a contractor's ability to complete the project on time or within budget.

Owners (Public and Institution, Private, and Governmental Agencies)

Survey response from owners was very limited possibly because of lack of interest or knowledge of surety bonds and/or subcontractor default insurance. Several of the respondents from governmental agencies noted that the prime contractor was normally bonded, but they did not require subcontractor bonding - that was a contractor decision. Regardless of the reason(s), only forty-nine (49) usable responses were received from the combined sampling of public and private owners. Twenty-one of the respondents were employed in government agencies, seventeen with a public institution or university, and eleven were engaged in the private sector.

Bonding and SDI Program Knowledge

On a significant percentage (84%) of their annual volume these owners required the contractor to be bonded. Seventy-seven percent (77%) of the respondents bonded the general contractor on ninety-five percent or more of the time and two-thirds (65%) required the GC to be bonded on all their work. Their knowledge of, or requirement for, subcontractor bonding was considerably less. Two-thirds of the respondents (65%) indicated that they either did not have any bonded subcontractors on their project(s) or

didn't know if they had any. Forty percent (40%) did not know the average subcontractor bonding rate. Subcontractor bonding was typically required by only 10% of the governmental agencies, 29% of the public institutions and universities, and 30% of the private owners. Collectively, eighty percent (80%) of the owner respondents did not require subcontractors to be bonded on their projects.

In addition to limited knowledge/use of subcontractor bonding, only ten (10) of the respondents had experience with subcontractor default insurance. Four of these ten respondents with experience were associated with private organizations and six were affiliated with a university. None of the governmental agency respondents had SDI experience. One of the owners was first exposed to SDI in the year 2000. The remaining had their first experience in 2003 (3), 2005 (3), or 2007 (3). Eight of the owners (80%) still had projects where subcontractors were enrolled in a SDI program and two owners (20%) no longer participated. For owners with active programs, subcontractor enrollment in SDI ranged from 1% to 80% with an average of 32% of subcontractor value. Five owners were experiencing increasing enrollment and the balance had stable SDI enrollment.

Owner Response Analysis

The limited sample size, especially for owners with SDI experience, limits the findings with statistical significance and the robustness of any corresponding conclusions. The small sample size makes it more difficult to identify mean variances and statistically significant differences between respondent groups. Regardless, the statistically significant findings are as follows:

Subcontractor Prequalification Process: Owners with no SDI experience believe that sureties have better access to subcontractor performance and financial data and judge surety prequalification as an advantage of bonds. Conversely, owners with SDI experience do not think that sureties are more capable than contractors to prequalify subcontractors. These owners also believe that SDI contractors have a more intensive prequalification process and typically require a sub to be bondable for enrollment in the program.

Subcontractor Default Response: Owners with no SDI experience view surety responsibility for remedy of a subcontractor default, first dollar coverage and response time for a default, and surety claim service as advantages of surety bonds. Conversely, owners with SDI experience do not think that sureties respond in a timely fashion to subcontractor default nor execute a remedy that minimizes project delay. In addition, these owners believe the program provides the contractor greater control and flexibility to manage subcontractor default. In the event of sub default, they assert that SDI improves a contractor's ability to complete a project on time and within budget.

Cost, Pricing and Coverage: Owners with SDI experience view possible cost savings as a significant GC incentive influencing its use. However, they believe SDI provides increased coverage limits that are also an important consideration. They do not think that most owners understand the advantages and disadvantages of SDI. These owners also view payment protection for suppliers and 2nd tier subcontractors as an advantage of surety bonds.

Contractor SubGuard Program Data and Loss History

In addition to assessment of surety bonds and subcontractor default insurance, contractors were asked to provide detailed information regarding their own SubGuard® program. Program information on enrollment, cost, coverage, and loss history was solicited. The following is a summary of the data collected.

SubGuard® Participants and Program Trend

Fifty-six (56) contractors with a current or past SubGuard® program participated in this study. Considering there are about 135 US contractors that have participated in the program, this represents approximately 40% participation in the study. The year the respondents' SubGuard® program was initiated ranges from 1996 to 2007. However, 71% of these contractors started their program within the past 5 years and half of these (36%) were started within the past 3 years. Current subcontractor volume enrollment ranges from 5% to 100% of the firm's annual subcontract value with an average enrollment of 58%. Seventy percent (70%) of the respondents have 50% or more of their annual subcontract volume enrolled in the program. Current subcontractor annual enrollment for the respondents ranged from 50m to 1 billion with an average enrollment of 285m.

Table 7: Enrollment Trend

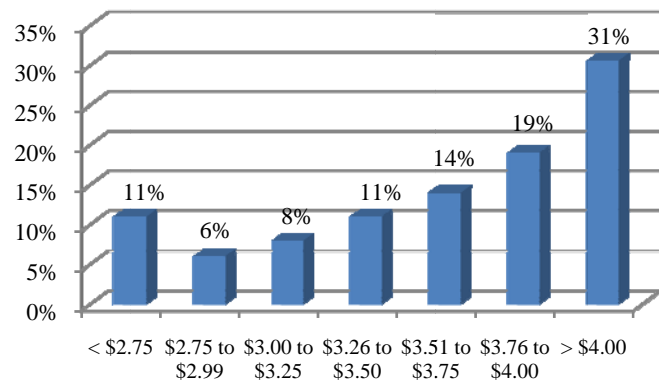
Trend	% of Respondents
Stable	37.5%
Increasing	50.0%
Decreasing	7.1%
No Longer Participate	5.4%

As shown in Table 7: Enrollment Trend, the vast majority of contractors with a SubGuard® program (87.5%) have an increasing or stable subcontractor enrollment trend. Only seven percent (7.1%) have decreasing enrollment and only three contractors (5.4%) no longer participate in the program.

Program Costs & Pricing: The questionnaire solicited information on costs and pricing for each contractor's SubGuard® program. Two-thirds of the contractors with a SubGuard® program responding to the survey provided cost information on their fixed premium to the insurer, estimated administrative costs, reserve pool and program pricing to the owner.

The cost of the fixed premium to the insurer ranged from less than \$2.75/\$1,000 to greater than \$4.00/\$1,000. Expressed as a percentage of subcontract value this equates to a range of < .275% to > .40%. Figure 9: SubGuard Fixed Premium, displays the cost distribution of the respondents. Thirty-one percent (31%) of the contractors have a fixed premium cost of greater than \$4.00/\$1,000 and three quarters (75%) have a fixed premium greater than \$3.25/\$1,000 (0.325%) of subcontractor enrollment volume. The trend for this fixed premium was stable for 60% of the respondents and increasing for 40%.

Figure 9: SubGuard® Fixed Premium



The estimated administrative costs for the contractor’s SDI program ranged from less than \$0.50/\$1,000 to greater than \$1.50/\$1,000. Approximately seventy-two percent (71.5%) of the contractors estimated their administrative costs to be \$0.75/\$1,000 (0.075%) or less.

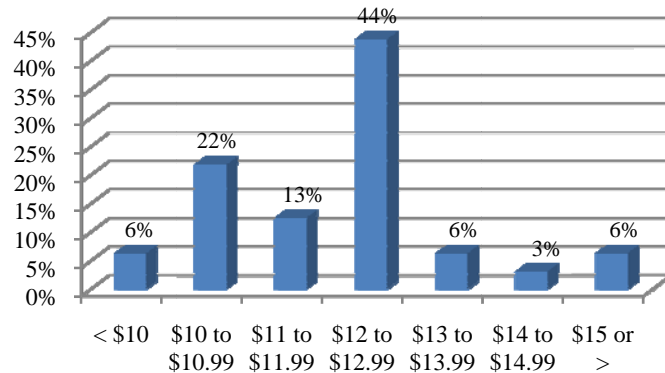
Table 8: Reserve Pool

\$/\$1,000	% of Respondents
< \$3.00	18.2%
\$3.00 to \$4.00	9.1%
\$4.01 to \$5.00	9.1%
\$5.01 to \$6.00	6.1%
\$6.01 to \$7.00	27.3%
\$7.01 to \$8.00	9.1%
> \$8.00	21.2%

The reserve pool that contractors established for future claims ranged from less than \$3.00/\$1,000 to greater than \$8.00/\$1,000 of subcontractor enrolled value (Table 8). Eighteen percent (18.2%) of the respondents set aside less than 0.30% of enrolled value to cover

future claims. However, a majority of the firms (57.8%) established a reserve pool rate of greater than 0.60% of enrolled value.

Figure 10: SDI Cost to Owners



Contractor pricing to project owners ranged from \$8.00 to \$15.00/\$1,000 of subcontract value. As shown in Figure

10: SDI Cost to Owners, the most common pricing structure was \$12.00 to \$12.99/\$1,000. Almost eighty percent (79%) of the contractors charged their project owners between \$10.00 and \$12.99/ \$1,000 (1.00% to 1.29% of enrolled value) for SDI coverage.

Program Policy Deductible, Co-Pay and Coverage Limits: The policy deductible for the respondents ranged from .25m to 3m with an average of 0.84m. Almost two-thirds (66%) of the contractors had a deductible within the range of 500k to 750k. Twenty-two percent (22%) of the respondents had a deductible of 1m and only nine percent (9%) had a policy deductible of greater than 1m (Table 9). The co-pay layer ranged from .20m to 5m. The majority of SDI contractors (56%) have a co-pay layer of \$500,000 or less (Table 10).

Table 9: Policy Deductible

Deductible	% of Respondents
\$250k or less	3.1%
\$500k	28.1%
\$600k-\$650k	9.4%
\$750k	28.1%
\$1 million	21.9%
> \$1 million	9.3%

Table 10: Co-Pay Layer

Co-Pay Layer	% of Respondents
\$250k or less	18.5%
\$251k - \$499k	11.1%
\$500k	26.0%
\$1.00 m to 1.25m	18.5%
\$1.26 m to 1.50m	11.1%
> 1.50m	14.8%

Per occurrence policy limits range from \$7.5m to \$75m and average of \$29m. An examination of Table 11 reveals that approximately half (50%) of the contractors with a SDI program have an occurrence limit

of 25m or less. Aggregate limits range from \$15m to \$150m with an average of 60m. Approximately half (51.6%) have a policy aggregate limit of 59m or less (Table 12).

Table 11: Occurrence Limit

Occurrence Limit	% of Respondents
\$7.5m	3.1%
\$10m	9.4%
\$15m	6.3%
\$20m	12.4%
\$25m	18.8%
\$30m	31.3%
\$50m	15.6%
\$75m	3.1%

Table 12: Aggregate Limit

Aggregate Limit	% of Respondents
\$15m or less	3.2%
\$20m to \$29m	16.2%
\$30m to \$39m	9.7%
\$40m to \$49m	12.8%
\$50m to \$ 59m	9.7%
\$60m to \$69m	19.4%
\$70m to 89m	3.2%
\$90m to 99m	6.5%
\$100m or >	19.3%

Loss History: Participating firms with SubGuard® programs were asked to provide information regarding the firm’s loss history since inception of their program. Requested data included: a) the total number and value of claims submitted to the insurer, b) the number of these claims which exceeded their policy deductible, c) the total value of claims reimbursed by the insurer, and d) the number and total value of disputed claims. Approximately three-quarters (41) of the participating contractors with a SubGuard® program submitted data on their program loss history.

Combined, these forty-one contractors had submitted 199 claims since the inception of their programs. However, eighty-three percent (83%) of these claims were submitted by only 5 firms, or 12% of the

Table 13: Claim History

# Claims	# Firms	Average Contractor Volume	Average Program Start	% Enrollment	Total # of Claims	# Claims Exceeding Deductible	Average Claim Value	Average Reimbursed Value**
0	20	499m	2005	53%	0	0	0	0
1	8	1,779m	2003	60%	8	3	605k*	102k*
2 to 5	8	1,128m	2005	48%	25	8	915k	625k
0 to 5	36	899m	2004	53%	33	11	851k*	495k*
> 5	5	1,999m	1999	60%	166	NA	550k	480k
Totals	41	1,220m	2004	54%	199		677k	552k

*Without one \$13,000,000 claim outlier

** Includes disputed amounts

sample. Twenty firms (49%) had no claims and eight contractors (20%) had experienced only one claim since inception. Another eight firms (20%) had 2-5 claims since initiating their program (Table 13).

Firms with zero claims had a significantly smaller annual volume, but also had less program experience. The initiation year for programs with zero claims ranged from 1999 to 2007. However, the mean year of program initiation is 2005 versus 2003 for those that have experienced one or more claim. In addition, firms with greater than 5 claims had an average start date of 1999, or greater than eight years of program experience with SubGuard. As underwriting logic would dictate, larger enrollment and longer program

experience yields increased claim volume. Firms with 5 claims or less had an average claim value of \$851,000 but only a third of these claims exceeded the deductible. Overall, the average claim was \$677,000 with 81% reimbursed by the insurer.

Of the 199 claims submitted by these contractors, seven (3.5%) are in dispute and resolution may require arbitration or litigation. These seven claims, from four contractors, represent \$8,640,000 (7.7%) of the total value of the claims from these 41 firms.

SUMMARY OF FINDINGS AND CONCLUSIONS

To supplement and enhance the survey data thirty-five (35) personal interviews were conducted. Interviewees included with bond producers (6), attorneys and associations (5), subcontractors (3), contractors (18), and the SDI insurer (3). The interviews were focused on the themes of this study and typically lasted from 45 minutes to 1½ hours. These discussions, along with the comparative analysis of the statistical findings for each respondent group revealed both areas of agreement and disagreement. The disparity is often based upon respondent perspective, subject knowledge, or experience regarding surety bonds and subcontractor default insurance. However, despite the differences there are a number of areas where central themes emerged and reasonable conclusions could be drawn - especially when limiting the analysis to respondents knowledgeable of both risk management products. Within that context, the following is a summary of the findings and conclusions. Central themes and substantive conclusions are presented for each major category of this study: a) subcontractor prequalification, b) subcontractor default response, c) cost, pricing and coverage, d) risk management, and e) subcontractor participation. Tables presenting the statistical results that provide support for these conclusions are located in the Appendix.

General

- *SubGuard® is not appropriate for every contractor.* SubGuard® is a risk management insurance program targeted at large commercial general building contractors with an annual subcontracted value of 75 million or greater. The program is not appropriate for every contractor. Candidates need a large annual volume and the financial strength, management expertise, and willingness to accept the inherent financial risk associated with a catastrophic insurance program for subcontractor default. Contractors meeting these criteria are a relatively small group of the population of all U.S. builders. However, considering the program restrictions, SubGuard® has received widespread acceptance within its targeted market. Since its inception in 1996, SubGuard® has grown to a current market penetration of approximately one hundred thirty-five (135) U.S. contractors with a combined annual enrollment of about 35 billion of subcontractor value.
- *SubGuard® is not appropriate for use on every project or with every subcontractor.* Subcontractor enrollment for contractors with SubGuard® programs ranges from 5% to 100% of annual subcontractor value with an average enrollment of 56%. Only fourteen percent of the SDI contractors participating in this study had subcontractor enrollment of 90% or more. SubGuard® use depends upon perceived risk. Program use is often predicated on four primary considerations: a) contractor selection, b) contract type, c) project type, and d) owner acceptance. Most SDI contractors prefer to use SubGuard in a project environment where the contractor is selected based on qualifications, and not just price. These tend to be negotiated projects where the contractor has the flexibility to select and control subcontractor participation. Subcontractors unknown to the firm or not meeting their prequalification standards are typically not enrolled in the program. To mitigate the firm's risk, SubGuard® use is often limited to project types and the geographical range of the firm's prior

experience. In addition, program use is subject to owner acceptance of this risk management approach and the contractor's pricing structure.

SDI contractors typically do not view SubGuard as a universal risk management tool. Rather they utilize the program when project variables and subcontractor participation pose an acceptable level of project risk and program application.

Subcontractor Prequalification (See Table 2 in the Appendix)

- *Surety (3rd party) prequalification of subcontractors is an advantage of surety bonds.* Surety subcontractor prequalification is viewed by contractors, subcontractors and bond producers as a worthy indicator of subcontractor capability and capacity. SDI contractors value the surety's knowledge and evaluation of the performance and payment risk of a subcontractor.
- *Subcontractor 'bondability' is typically a prerequisite for enrollment in SubGuard[®].* Most SDI contractors prefer or require subcontractors enrolled in their SubGuard program to have the capability and capacity to furnish a bond.
- *Bond producers are willing to provide "Sunshine Letters" for subcontractors on SDI projects.* A majority (61%) of bond producers indicate they are reluctant to provide Sunshine Letters for subcontractors on SDI projects. However, this does not appear to be supported in practice. Only a third of subcontractors (33%) and a fifth of SDI contractors (20%) believe bond producers are reluctant to provide evidence of subcontractor bondability on projects with a SDI program.
- *Contractors with SubGuard programs have the ability to adequately prequalify subcontractors.* Bond producers and subcontractors submit that sureties have better access to sub financial information and also have greater skill to establish project and aggregate bond limits. However, bond producers are the only group that claims sureties are more capable to prequalify subcontractors. That coupled with the loss history of SDI contractors (more than two-thirds have had one or fewer claims since the inception of their program) lends support for this conclusion.
- *The SDI prequalification process is invasive and is an administrative burden on the subcontractor.* SDI contractors do not support this conclusion, but approximately three-quarters of the subcontractors exposed to the process (and a majority of the bond producers) judge the process to be invasive and an administrative burden. Similarly, eighty-four percent (84%) of subcontractors claim that the process requires the sharing of sensitive financial information that they feel may be misused or misinterpreted.
- *Contractors typically have a policy to protect the privacy of subcontractor information.* Subcontractors are 'neutral' on this matter, but ninety-one percent of the contractors with a SDI program assert that contractors have a policy to protect the privacy of the sub's information. Even a majority of bond producers support the contractors' position.

Subcontractor Default Response (See Table 3 in the Appendix)

- *Sureties typically do not execute default remedies that minimize project delay or project cost for the owner and/or contractor.* Approximately 87% of the SDI contractors share this opinion. Even amongst non-SDI contractors, less than 10% of the firms believe that sureties are responsive and execute a remedy that minimizes project cost and delay. Collectively, the purchasers of subcontractor

surety bonds (contractors) are not satisfied with surety response to subcontractor default. As a group, subcontractors are statistically neutral on these issues. However, a deeper evaluation of subcontractor response reveals that less than a third (31%) believe that the surety remedy minimizes project delay and only a fifth (21%) assert that surety response generally minimizes owner/contractor cost. Bond producers are neutral regarding this matter. They neither agree nor disagree with the statement(s) that sureties typically execute a default remedy that minimizes project delay and cost.

From a surety/bond producer perspective, their primary obligation is to the surety and their principal – the subcontractor. In their defense, it may not be their responsibility to minimize project cost or delay for the owner or GC. In addition, they certainly have a number of other legal and process limitations regarding default remedy and response.

- *Surety default response typically does not address the needs and concerns of the contractor.* A significant majority of all contractors (78%) and eighty-eight percent (88%) of those contractors with a SDI program share this opinion. Perceived lack of surety response was actually the genesis of the SubGuard[®] program.

From a surety perspective, they may not have an obligation to address the needs and concerns of the contractor. Surety investigation of the subcontractor default restricts the timeliness of response. In addition, surety response is bounded by the contractual obligations, rights, and defenses of their principal. Regardless, the firms purchasing subcontractor surety bonds (contractors) are not satisfied with surety response to subcontractor default. They assert that surety actions are typically not responsive to their needs. Dissatisfaction with surety response to subcontractor default was an important consideration for 82% of the contractors that decided to initiate a SubGuard[®] program.

- *SDI provides the contractor greater control and flexibility to manage subcontractor default.* Contractors, bond producers, and owners agree with this assertion. These three groups also submit that contractor control was an important consideration in the decision to use SubGuard[®].
- *In the event of subcontractor default, SDI improves the contractor's ability to complete a project on time and within budget.* A significant majority of contractors assert that in the event of subcontractor default, SDI improves their ability to complete a project on time (89%) and within budget (78%). None of the parties disagree with these assertions. Bond producers and owners support the assertion that SDI improves a contractor's ability to complete on time.

Cost, Pricing & Coverage (See Table 4 in the Appendix)

- *Possible cost savings is a significant contractor incentive influencing SDI's use* (all parties agree).
- *SDI is priced to project owners at, or slightly less, than subcontractor surety bonds.*
- *Payment Protection for suppliers and 2nd tier subcontractors is an advantage of subcontractor surety bonds* (all parties agree).
- *Data regarding coverage limits and length of coverage (tail) is inconclusive.* Contractors assert that SDI provides better coverage limits and duration of coverage for a defaulted subcontractor. Bond producers, another group in a position to knowledgeably assess coverage and risk, are in disagreement with the contractors' assessment.

In practice, SubGuard and surety bond terms and conditions vary, often in response to the legal or regulatory constraints applicable to the project. However, there are some common differences. With

SDI, subcontractor coverage extends to the occurrence and aggregate limits of the contractor's policy. These limits are typically in excess of the coverage afforded by a surety bond except on large subcontracts approaching the firm's policy limits. In addition, the length of coverage subsequent to project completion is often longer with SubGuard. Standard SubGuard[®] policy terms extend coverage to 10 years or the statute of limitations (whichever is less) whereas surety bond coverage is often limited to a period of 1 to 2 years after project completion.

- *Most owners do not understand the advantages and disadvantages of SDI* (all but contractors agree).
- *SDI has an impact on the Owner's risk.* Even though most owners may not understand the risk implications of SubGuard[®], the program can have an impact on their level of project risk. The degree of impact, and whether it is positive or negative, depends on project conditions and contractor solvency.

If the general contractor maintains solvency the impact of SDI can be favorable on two counts: cost and response to the event. SubGuard is typically priced at, or slightly less, than surety bonds so there may be a project cost savings to the owner. In addition, SDI provides contractor control regarding response to poor subcontractor performance and default. The contractor's ability to directly manage subcontractor default can improve the timeliness and effectiveness of response to mitigate the negative impact on project cost and completion time. With SDI, 2nd tier subcontractors and suppliers do not have the payment protection of a surety bond, but retain their lien rights and can file claims against the contractor.

In the event of contractor insolvency, owner risk can be negatively impacted by the use of SDI. The degree of impact largely depends on whether or not the contractor was bonded. If the owner obtained a contractor payment and performance bond, the owner's risk is limited because the surety would be required to fulfill the contractor's contractual obligations. Under this condition, whether the subcontractors were bonded or enrolled in a SubGuard[®] program may have minimal impact. The contractor's surety would be assuming the risk. However, in the absence of a general contractor surety bond, the owner would be assuming the payment and performance risk of the contractor. In that case if the owner obtained 'financial endorsement certificates' from the SubGuard insurer the owner's risk would be limited to the terms and conditions of the contractor's policy. In the event of subcontractor default, policy deductible(s) and coverage limits would apply to the owner. With SubGuard, the owner would not have the 1st dollar coverage typical with subcontractor surety bonds. Without 'financial endorsement certificates' the owner's financial exposure could extend to all of the additional cost and delay caused by the contractor and subcontractor(s) default.

Risk Management (See Table 5 in the Appendix)

- *SDI provides an incentive for the contractor to improve its subcontractor prequalification process.* Subcontractors are neutral on this issue, but a significant majority of contractors (93%) support this assertion. In addition, almost three quarters of the bond producers (74%) agree.
- *Contractors using SDI more proactively manage poor subcontractor performance* (supported by CM/GC's and bond producers).
- *SDI encourages contractors to become better managers of subcontractor risk* (supported by CM/GC's and bond producers). For many SDI contractors the subcontractor prequalification process evaluates both the subcontractor's operational capabilities and financial strength. Many believe their process equals or exceeds the surety's prequalification process. SDI contractors have 'skin in the game' and as a result take a more active role in evaluating and managing subcontractor risk

- *SDI affords a defaulted subcontractor little leverage or recourse except through litigation.* Subcontractors (the party that can be placed in default) and bond producers support this assertion. A majority of SDI contractors disagree with this conclusion. They submit that in practice, the majority of subcontractor defaults are due to subcontractor insolvency.
- *The lack of legal precedence does not discourage the use of SDI.* SDI contractors and bond producers submit that the lack of legal precedence does not discourage the use of SDI.
- *Data regarding SDI compliance with the Miller Act and legal concerns regarding False Claims Act liability on federal work is mixed.* Subcontractors and bond producers do not think that SDI complies with the claim rights and payment protection mandated by the Miller Act on public work and contractors and owners are neutral. However, The Miller Act only addresses general contractor bonding on federal work. It is silent regarding subcontractor bonds. Several years ago Zurich marketed a substitute for contractor surety bonds called ‘OwnerGuard’ which did not meet the Miller Act requirements. However, this product is no longer available and their current product, SubGuard, is not intended to be a substitute for a general contractor bond. As a result, SubGuard does not appear to violate the requirements of the federal Miller Act.

Contractors submit that SDI does not pose a False Claims Act liability on federal work. Only 26% of bond producers assert that SDI’s use poses a liability, but statistically both bond producers and subcontractors are neutral on this issue. During the personal interviews most participants indicated that SubGuard[®] does pose a liability on negotiated and change order work on federal contracts unless there is prior disclosure and a pricing agreement reached with the proper government authorities.

Subcontractor Participation (See Table 6 in the Appendix)

- *Enrollment in a SDI program impacts a subcontractor’s bonding capacity.* Contractors do not support this position and subcontractors are neutral. However, bond producers who are in a better position to assess the impact of SDI enrollment support this assertion.
- *SDI does not create a disincentive to use subcontractors or vendors not already enrolled.* Both contractors and bond producers support this position.
- *SDI encourages the use of small and minority subcontractors that cannot obtain bonding* (supported by CM/GC’s and subcontractors).
- *Most subcontractors would rather furnish a bond than be enrolled in SDI.* Contractors do not share this opinion, but both subcontractors and bond producers support this conclusion.
- *Bonding subcontractors will not increase subcontractor and supplier competition for the project.* Contractors and subcontractors do not believe that bonding will increase competition. Bond producers are neutral on this issue – they do not agree nor disagree with this statement/conclusion.

Looking Forward

This study was initiated in the summer of ‘08 and data was collected in the fall of 2009. Starting late 2009 the U.S. has been experiencing an economic slowdown and the construction industry has seen a reduction in construction starts. These evolving economic conditions will most likely have an impact on surety and

contractor risk. To provide some insight, the interviewees were asked to forecast the market's influence on subcontractor selection and contractor use of SDI. The strength of the following assertions is predicated on the depth and duration of the current economic climate.

- *Subcontractor prequalification will be enhanced.* Contractors perceive an increased risk of subcontractor failure in the current market. Most intend to elevate their prequalification process for all subcontractors - regardless if they are bonded or enrolled in SubGuard. Most submit that even if Zurich stopped offering SubGuard[®], they would still continue their subcontractor prequalification process. The SubGuard[®] program has elevated their prequalification effort, and most SDI contractors view this as a very positive step in mitigating subcontractor risk.
- *Market economic conditions will influence the use and availability of SubGuard.* With an overall reduction in U.S. construction volume, the absolute value of subcontractor enrollment in SubGuard will likely decline – unless it is offset by increased market penetration of the product. However, this is unlikely because most expect the insurer (Zurich) to also raise the bar for acceptance of new contractors into the program.

In addition, many forecast an increased use of subcontractor surety bonds as the market continues to be more competitive and price driven. Contractors will be more inclined to transfer subcontractor performance and payment risk to the surety and self-insured risk retention (SubGuard) will likely decline.

Lastly, since Zurich is the sole insurer offering SubGuard[®], there is some concern of the continuing availability of the product. Program growth and viability appears strong, but continued profitability and reinsurance capacity are required for its continued existence.

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Appendix

Table 2: Subcontractor Prequalification
Respondents with SDI Experience

Subcontractor Prequalification	CM/ GC	Sub	Bond Producer	Owner
<small>'---' = neutral (neither agree or disagree), 'na' = not applicable</small>				
<i>Prequalification Skill & Capability</i>				
Sureties can better assess subcontractor capability & capacity.	Disagree	---	Agree	---
Sureties have better access to sub performance & financial data.	---	Agree	Agree	---
Sureties are much more capable to prequalify subcontractors.	Disagree	---	Agree	Disagree
Surety (3 rd party) prequalification.	Adv.	Adv.	Adv.	---
Contractors lack the skill to establish project and aggregate bond limits.	Disagree	Agree	Agree	---
<i>SDI Prequalification Process</i>				
The subcontractor prequalification process:				
is invasive.	Disagree	Agree	Agree	Na
required for each contractor's SDI program is an administrative burden.	Disagree	Agree	Agree	Na
is less extensive when the sub is bonded.	---	Agree	Agree	---
SDI requires sharing of financial information that:				
maybe misinterpreted or misused.	Disagree	Agree	Agree	Na
may adversely impact the subcontractor's competitive position.	Disagree	Agree	Agree	Na
Contractors have a policy to protect the privacy of subcontractor information.	Agree	---	Agree	Na
SDI requires a contractor to have a more intensive prequalification process.	Agree	---	Agree	Agree
<i>SDI Enrollment</i>				
<i>Bondability</i> is typically a prerequisite for a sub enrollment in a SDI.	Agree	Agree	Agree	Agree
Subcontractors that cannot get a bond are often enrolled in SubGuard [®] .	Disagree	---	---	---
Bond producers are reluctant to provide a 'Sunshine Letter' for subcontractors if the contractor is using a SDI program on the project.	---	---	Agree	Na

Table 3: Subcontractor Default Response
Respondents with SDI Experience

Subcontractor Default	CM / GC	Sub	Bond Producer	Owner
<i>Subcontractor Surety Bond</i>				
In the event of subcontractor default the surety typically:				
responds in a timely fashion.	Disagree	---	---	Disagree
addresses the needs and concerns of the general contractor (GC).	Disagree	---	---	---
is responsive & executes a remedy that minimizes project delay.	Disagree	---	---	Disagree
executes a remedy that minimizes project cost for the Owner/GC.	Disagree	---	---	---
Surety bond advantages or disadvantages:				
Surety response time to a default.	Disadv.	---	---	---
Surety responsibility for the remedy of a default.	Disadv.	---	Adv.	---
Surety 1 st dollar coverage in the case of default.	---	Adv.	Adv.	---
Surety claim service.	Disadv.	---	---	---
Surety resources & assistance available to principals.	---	Adv.	Adv.	---
<i>Subcontractor Default Insurance</i>				
In the event of subcontractor default SDI:				
improves a contractor's ability to complete a project within budget.	Agree	---	---	Agree
improves a contractor's ability to complete a project on time.	Agree	---	Agree	Agree
provides greater control and flexibility to manage sub default.	Agree	---	Agree	Agree
provides the contractor less leverage over a defaulted sub.	Disagree	Disagree	---	---
Importance in the decision to utilize SubGuard (SDI):				
Contractor control in managing subcontractor default.	Important	---	Important	Important
First party relationship with the insurer.	Important	---	Important	Important
Dissatisfaction with surety response to subcontractor default.	Important	---	Important	---

Table 4: SDI Cost & Pricing, Coverage and Satisfaction
 Respondents with SDI Experience

Cost & Pricing, Coverage, & Satisfaction	CM/GC	Sub	Bond Producer	Owner
<small>'---' = neutral (neither agree or disagree), 'na' = not applicable</small>				
<i>Cost & Pricing</i>				
Possible cost savings is a significant incentive for a GC to use SDI.	Agree	Agree	Agree	Agree
SDI is priced to the owner at, or slightly less, than surety bonds.	Agree	Agree	Agree	---
Owners are made aware of a contractor's SDI pricing structure.	Agree	Disagree	---	---
Subcontractor performance and payment bonds are a good value.	Disagree	Agree	Agree	---
<i>Coverage</i>				
Bonds:				
provide better coverage for subcontractor risk on larger projects.	Disagree	Agree	Agree	---
provide better sub and supplier payment protection for the owner.	Disagree	Agree	Agree	---
provide payment protection for suppliers & 2 nd tier subs.	Adv.	Adv.	Adv.	Adv
provide performance protection.	---	Adv.	Adv.	---
SDI:				
provides increased coverage limits for a defaulted subcontractor.	Agree	Disagree	Disagree	Agree
coverage tail (coverage after completion) is typically longer.	Agree	---	---	---
has increased subcontractor coverage limits.	Important	---	Important	Important
increases a project owner's financial risk.	Disagree	---	Agree	---
Most owners understand the advantages and disadvantages of SDI.	---	Disagree	Disagree	Disagree
<i>Satisfaction:</i>				
We are satisfied with the SDI program.	Agree	Disagree	---	---
Project owners prefer subcontractor bonds.	Disagree	---	Agree	---

Table 5: Risk Management
Respondents with SDI Experience

Risk Management	CM / GC	Sub	Bond Producer	Owner
<i>Prequalification & Management of Subcontractors</i>				
<i>SDI:</i>				
is an incentive for a GC to improve its sub prequalification process.	Agree	---	Agree	na
helps contractors to become better managers of subcontractor risk.	Agree	---	Agree	na
contractors more proactively manage poor subcontractor performance	Agree	---	Agree	---
<i>Financial Risk</i>				
The large deductible is a significant deterrent to the use of SDI.	Disagree	---	---	na
SDI carries greater financial risk for the contractor.	---	---	Agree	---
<i>Dispute Resolution (SDI):</i>				
Increases the likelihood of unwarranted sub default.	Disagree	---	---	na
Dampens the contractor's efforts to resolve subcontractor disputes.	Disagree	---	---	na
The ease of sub default declaration can give the GC a false sense of security.	Disagree	Agree	---	na
A defaulted sub has little leverage or recourse except through litigation.	Disagree	Agree	Agree	na
<i>Legal (SDI):</i>				
The lack of case law (legal precedence) for SDI discourages its use.	Disagree	---	Disagree	---
Doesn't satisfy claim rights and payment protections mandated by the federal Miller Act (or Little Miller Acts) on public work.	---	Agree	Agree	---
Markup of SDI costs poses a False Claims Act liability on federal work.	Disagree	---	---	---

Table 6: Subcontractor Project Participation
Respondents with SDI Experience

Subcontractor Project Participation	CM/GC	Sub	Bond Producer	Owner
'---' = neutral (neither agree or disagree), 'na' = not applicable				
<i>SDI:</i>				
Enrollment does not tap the subcontractor's bonding capacity.	Agree	---	Disagree	na
Creates a disincentive to use subs or vendors not already enrolled.	Disagree	---	Disagree	---
Creates a disincentive for a contractor to use subs unknown to the GC.	-	---	Agree	---
Encourages the use of small & minority subs that can't obtain bonding.	Agree	Agree	---	---
Broadens the pool of subcontractors and suppliers for the project.	Agree	---	---	---
<i>Subcontractor Bonds</i>				
Most subs would rather furnish a bond than be enrolled in SDI.	Disagree	Agree	Agree	na
Bonding subs will increase sub/supplier competition for the project.	Disagree	Disagree	---	---
Bonds ensure better quality subcontractors & suppliers for the project.	Disagree	Agree	Agree	---