Foundation of the American Subcontractors Association, Inc.

National Association of Surety Bond Producers

Subcontractor Default Insurance: Its Use, Costs, Advantages, Disadvantages and Impact on Project Participants

by
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About the Foundation of ASA

FASA was established in 1987 as a 501(c)(3) tax-exempt entity to support research, education and public awareness. This study is the second title published in FASA's Contractors' Knowledge Quest Research Series, preceded by *Retainage Practice in the Construction Industry*. Under the hallmark of the Contractors' Knowledge Quest, FASA funds and commissions research on the key business issues of construction subcontractors and specialty trade contractors. The research goals are two-fold: (1) to identify trends that could impact construction subcontractors and specialty trade contractors in order to help them prepare for these changes; and (2) to identify best practices for subcontractors and specialty trade contractors.

About the National Association of Surety Bond Producers

Established in 1942, the National Association of Surety Bond Producers is a trade association of companies employing professional surety bond producers and brokers, personnel who specialize in surety bonding, issuing bid, performance, and payment bonds for construction and commercial applications. As trusted advisors, bond producers act in many key roles to position their clients to meet underwriting requirements for surety credit and to achieve business success.

About the Author

Dennis C. Bausman, Ph.D., CPC, LEED AP, has over 30 years experience in construction and construction education. Prior to his current position as an Assistant Professor in the Construction Science & Management Department at Clemson University, he was in large commercial contracting where he held the positions of Executive Vice President, Division Manager, Senior Project Manager, Project Manager, Superintendent, Assistant Superintendent and Field Engineer over a 22-year career in industry. His industry experience includes management responsibility for over 300 projects totaling in excess of $2 billion of construction with a project size ranging up to more than $120 million. His project experience includes commercial, healthcare, industrial, entertainment, and public construction. He has personal knowledge and involvement with a variety of contracting formats including lump-sum, guaranteed maximum price, cost plus, design-build, and construction management.

Bausman is a member of the board of directors of the American Institute of Constructors and has been honored as a Certified Professional Constructor and LEED Accredited Professional. He is a member of the Panel of Arbitrators for the American Arbitration Association. Dr. Bausman has conducted numerous research projects relating to construction issues and has published and presented the results of his studies extensively, including *Retainage Practice in the Construction Industry* (2004). He has developed and taught various continuing education programs for construction companies and the National Center for Construction Education and Research.

Subcontractor Default Insurance (SDI):

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

Dennis C. Bausman, PhD
Clemson University

EXECUTIVE SUMMARY

A surety bond is a three party agreement whereby the surety guarantees to one party the performance and/or payment of another party. Subcontractor surety bonds have a long history in U.S. construction and contractors commonly utilize subcontractor surety bonds as a risk management tool for subcontractor payment and performance protection. In 1996, an alternative product for subcontractor bonding was introduced into the U.S. market – Subcontractor Default Insurance (SDI). Zurich Insurance Company developed the original SDI product (SubGuard®) and remains the only insurer offering this type of coverage. SubGuard® is a two-party agreement between the contractor and the insurer that provides the contractor catastrophic insurance coverage for the cost of subcontractor and supplier default. Unlike surety bonds, SDI is not first dollar coverage and policies are subject to high deductibles and a co-pay layer. 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 has an opportunity to reap financial benefits.

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 is available. To address this void, a study was conducted to investigate SDI program particulars (features, use, cost, coverage, and loss history) and its advantages and disadvantages as compared to subcontractor surety bonds. Combined, over four hundred contractors, subcontractors, bond producers, sureties and owners participated in the study. The following is a summary of the findings for each major area of investigation.

Program Application: SubGuard® is not appropriate for every contractor. Candidates typically need an annual subcontractor volume in excess of $75m and the financial strength, management expertise, and willingness to accept the inherent financial risk associated with a catastrophic insurance program. SubGuard® is also not appropriate for use on every project or with every subcontractor. Subcontractor enrollment for SDI contractors ranges from 5% to 100% of annual subcontractor value with an average enrollment of 56%. Only fourteen percent of the SDI contractors participating in the study had subcontractor enrollment of 90% or more. SubGuard® use depends upon perceived risk and program use is often predicated on four primary project considerations: a) method of contractor selection, b) degree of contractor control of subcontractor selection, c) project type, and d) owner acceptance of program risk and pricing.

Subcontractor Prequalification: Surety prequalification of subcontractors is an advantage of surety bonds. Bondability is viewed as a worthy indicator of subcontractor capability and capacity and is typically a prerequisite for enrollment in a SubGuard® program. Bond producers profess to be reluctant to provide 'Sunshine Letters' for subcontractors on SDI projects but commonly provide the service. Subcontractors view the SDI prequalification process as invasive and an administrative burden. However, contractors typically have a policy to protect the privacy of subcontractor information.

Subcontractor Default: Contractors do no not believe sureties execute subcontractor default remedies which minimize project delay or project cost for the owner and/or contractor. SDI contractors also submit that subcontractor surety default response typically does not address the needs and concerns of the contractor. Dissatisfaction with surety response was actually the genesis of the SubGuard® program. SDI

provides the contractor greater control and flexibility to manage subcontractor default and in the event of subcontractor default it improves the contractor's ability to complete a project on time and within budget.

Cost, Pricing & Coverage*:* Possible cost savings to the contractor is a significant contractor incentive influencing SDI's use. SDI lacks payment protection for suppliers and 2nd tier subcontractors, but subcontractor coverage limits and length of time after completion can be enhanced with SDI. SubGuard® and subcontractor surety bond terms and conditions vary, often in response to the legal or regulatory constraints applicable to the project. However, 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 subcontractor 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 policy terms extend coverage to the lesser of 10 years or the statute of repose. In contrast, surety bond coverage is often limited to a period of 1 to 2 years after project completion.

SDI program coverage is typically priced to project owners at, or slightly less, than subcontractor surety bonds. However, most owners do not understand the advantages and disadvantages of SDI. This is of concern because program use can have an impact on the Owner's project risk profile. If the contractor remains solvent and/or is bonded, owner risk may not be significantly affected. However, if the general contractor is not bonded and becomes insolvent, the owner would be assuming the payment and performance risk of the contractor. If the owner obtained a 'financial interest endorsement' from the SDI insurer they would still be liable for policy deductible(s) and coverage limits would apply should an enrolled subcontractor default.

Risk Management: SDI provides an incentive for the contractor to improve its subcontractor prequalification process and contractors using SDI more proactively manage poor subcontractor performance. The program encourages contractors to become better managers of subcontractor risk and the lack of legal precedence does not discourage the use of SDI.

Use of SDI on federally funded work is not a violation of the federal Miller Act because the Act only addresses general contractor bonding on federally funded work and SubGuard® is not intended to be a substitute for a general contractor bond. However, the use of SDI on federally funded projects can pose legal concerns/liability regarding the False Claims Act unless there is prior disclosure and a program pricing agreement with the proper government authorities.

Subcontractor Participation: Most subcontractors would rather furnish a bond than be enrolled in SDI and enrollment in a SDI program does impact a subcontractor's bonding capacity. The program does not create a disincentive to use subcontractors or vendors not already enrolled and an SDI program can encourage the use of small and minority subcontractors that cannot obtain bonding.

Looking Forward

Contractors perceive an increased risk of subcontractor failure in the current economic downturn. As a result, they intend to elevate their prequalification process for all subcontractors - regardless of whether or not they are bonded or enrolled in SubGuard®. SDI contractors and bond producers forecast an increased use of subcontractor surety bonds as the market continues to be more competitive and price driven. In the current recessionary climate, contractors will be more inclined to transfer subcontractor performance and payment risk to the surety and self-insured risk retention (SubGuard®) will likely decline. In addition, since Zurich is the sole insurer offering SubGuard®, there is some concern amongst SDI contractors of the continuing availability of the product. Program growth and viability appear strong, but continued profitability and reinsurance capacity are required for its continued existence.

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 lack payment protection for sub-subcontractors and suppliers and carry high deductibles, a co-pay layer, and per loss 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 have 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 federal construction 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 federal construction 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

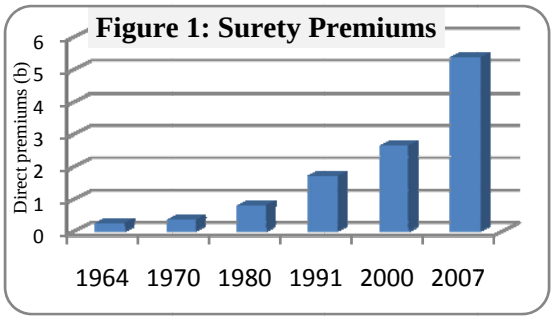
1999 the Miller Act was amended to require the face value of the payment bond be equal to the contract price on federal projects (Ramsey 2008).

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

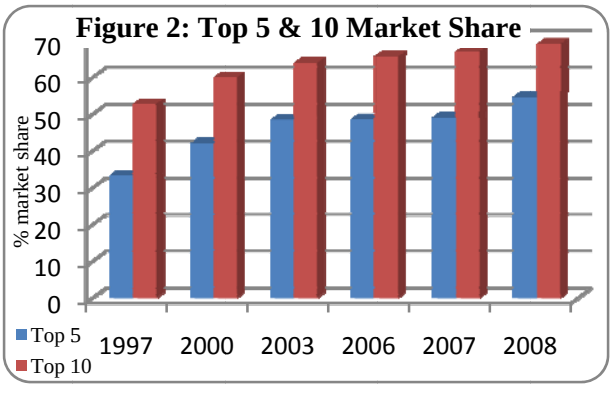
In spite of extensive prequalification efforts designed to extend surety credit to only those contracting firms that can meet their underlying contractual obligations, sureties do experience losses - sometimes quite large losses. In 2000 the surety industry experienced its worst loss in 20 years and 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 lost of five cents for every dollar of earned premium (McIntyre & Strischek 2005, SFAA).

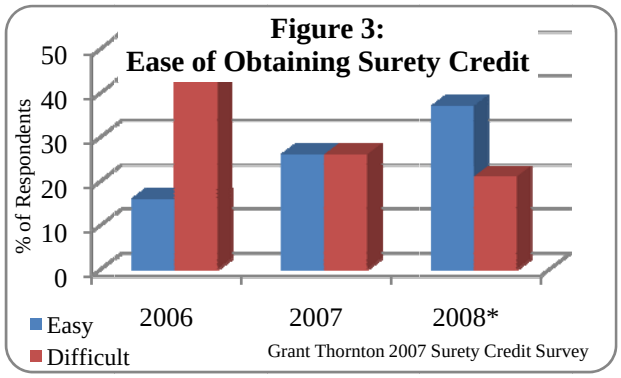
Direct losses from 2000-2003 totaled 8.05b (Anderson 2004) and peaked in 2004 with a loss ratio greater than 70% (SFAA, Korman et. al. 2007). This was also a difficult period of time for contractors with an industry failure rate of 28.5% (Bizminer, Ramsey 2007b). In response to poor performance some 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 2008 acquisition of Safeco by Liberty Mutual vaulted Liberty Mutual to 2nd place and increased market share of the Top 10 to 69%. Subsequent to the Liberty/Safeco merger, the Top 4 sureties 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 very large projects persists. Bonding for emerging contractors without significant capital or experience 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 principal 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 and suppliers, for labor and the other expenses they incur for the execution of their 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 can deliver its work in accordance with the terms and conditions of the subcontract 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 provide assurance that the subcontractor has the organizational and financial capability to perform its assumed subcontract obligations (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 protection is essential on public works because subcontractors and suppliers cannot bring suit against the contracting agency or place a lien against public property. This transfer of performance and financial risk to the surety is the primary reason federal and state governments require prime contractors to furnish 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 contractors (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 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

Surety Bond Advantages

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

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 has multiple independent legal obligations to the obligee and to the principal. The surety is obligated to conduct a thorough investigation to determine the extent of the principal's liability and the legitimacy of the default by developing a factual record. If the surety fails to properly investigate a bond claim properly, the surety may lose certain rights regarding the ability to assert its indemnification rights against the bond principal, or may be subject to claims of bad faith or unfair trade practices from the obligee.

The length of time required for this investigation is influenced by a number of variables, including the timeliness of information requested by the surety from the claimant to support the claim. 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 a subcontractor default in keeping with the terms of its bond obligation. The contractor may be consulted, but the ultimate response is at the discretion of the surety. Legal and business considerations may dictate the surety's response. The surety's remedy may be formulated from the perspective of their principal (the subcontractor), and 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).

Zurich'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 subcontractors 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 subcontractor 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

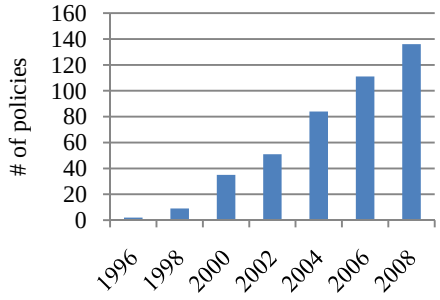
Target Market and Market Share

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, experience, and administrative resources 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 (Figure 5).

Figure 5: SubGuard® Policies



One of Zurich's stated objectives in launching the SubGuard® program was to expand the contractor's options for protection against subcontractor default. Zurich purported that many

contractors only selectively bonded subcontractors or not at all and SubGuard® would expand risk 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 construction (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 loss (subcontractor default). Once the deductible is reached the co-pay layer applies to each loss. 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 loss 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.

A 'loss' 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 loss) 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 loss policy limit which can extend up to a maximum of $50 million per loss.

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 it 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 fewer 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 envelope 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 subcontractor bond the surety prequalifies the subcontractor. However, with SubGuard® the insurer prequalifies only the insured 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 it 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 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 it has 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 insurer 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 insurer all payments made to the contractor (Zurich 2003, Higgins 2007).

Contractor Advantages

The advantages and disadvantages of SDI versus subcontractor surety bonds can 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, purported advantages tend to fall into four primary categories: coverage limit, control, consistency, and cost savings.

Contractor Advantages

- Coverage Limit
- Control
- Consistency
- Cost Savings

Coverage Limit: Unlike a subcontractor surety bond where coverage is limited to the penal sum (typically 100% of the subcontract value), 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/loss (Gentile 2005, Nelson 2007a, Zurich 2003). Consider for example a contractor with a $200,000 roofing subcontractor that performs poorly and causes $1,000,000 in damages and delays to the project. With a $500,000 deductible and a $1,000,000 – 20% co-pay layer, reimbursement to the contractor with an SDI policy would be $300,000 ($1,000,000 - $500,000 - 20%x$1,000,000), or in this case 50% greater than the amount if bonded.

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 of the contractors suitable for an SDI program have a well-developed process to screen out unqualified subcontractors and suppliers. Since the SDI contractor is partially self-insured, 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 subcontractor surety bond for a project is fixed and minimization of loss will not yield the contractor 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

The primary disadvantages of a SDI program from a contractor's perspective include: increased financial risk, increased responsibility, and lack of 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 of dollars (Schubert 2002b). In addition, SDI policies have per loss 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 subcontractor 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 of SDI submit that sureties are more capable of prequalifying subcontractors and suppliers and have established relationships, or in-house resources, for technical expertise and claims management. 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 the 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 sub-subcontractor/supplier lacks payment protection from the insurer, 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).

Subcontractor Concerns

- Lack of Payment Protection
- Prequalification Process
- Unwarranted Default
- Selection Incentives

Payment Protection: Unlike a subcontractor payment 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).

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 it deems to be appropriate action, and assess the incurred cost against the subcontractor. The subcontractor has little leverage or recourse except through litigation or arbitration (Ness 2005, McIntrye 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 some 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 loss limits afforded by SDI. Some will also claim that SDI broadens the pool of subcontractors by permitting the use of small local firms, minority subcontractors, and other firms that may not have the bonding capacity (Nelson 2007a).

Proponents of subcontractor surety bonds submit that bonds ensure better quality subcontractors for their projects and higher coverage limits on larger work. In addition, supporters of subcontractor bonds 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 subcontractor 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).

The Federal Miller Act provides that "before any contract of more than $100,000 is awarded for the construction, alteration, or repair of any public building or public work of the Federal Government, a [contractor] must furnish to the Government … a performance bond with a surety satisfactory to the officer awarding the contract, and in an amount the officer considers adequate, for the protection of the Government and … a payment bond … for the protection of all persons supplying labor and material in carrying out the work…" (U.S. Code). The Act requires contractor bonds on federal construction work and SDI is not an acceptable alternative for a bond from a prime contractor. However, the Miller Act contains no requirement for subcontractor bonding and as a result a contractor can elect to utilize SDI to manage its risk of subcontractor default (McIntyre 2007, Gentile 2005).

Another concern with using SDI on federally funded work is compliance with the False Claims Act. With SDI the contractor typically charges the owner (government) more than its direct cost paid to the insurer for program coverage. This may be considered a violation of 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 subcontractor surety bonds while increasing coverage and reducing cost. Critics of SDI submit that it has an invasive prequalification process, lacks payment protection for sub-subcontractors and suppliers, allows the contractor to be sole judge and jury regarding subcontractor default, and may be problematic on 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 subcontractor 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 number of contractors and approximate premium volume.
- Differentiate SDI from subcontract surety bonds.
- Identify the advantages and disadvantages of SDI as compared to subcontractor 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, in the form of opinions and experiences, 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 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 contractor 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

Questionnaire Development, Statistical Testing and Analysis, and Survey Response

The questionnaire was developed to solicit opinions and information on subcontractor surety bonds from all respondents and subcontractor default insurance from those respondents having experience and/or knowledge of SDI. 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.

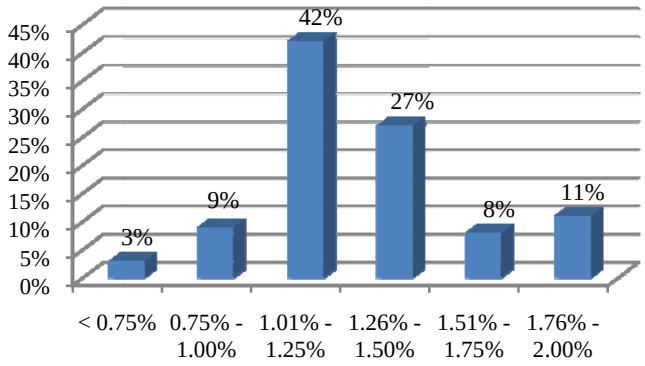
Construction Managers at Risk and General Contractors (CM/GC)

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 had 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 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.

Figure 6: Subcontractor Bonding Rate



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 contractor respondents 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, they do not think that sureties can better assess subcontractor capability and capacity. Respondents' assertions appear somewhat contradictory in that SDI contractors typically require surety confirmation of bondability, but do not believe sureties are more capable than they are to prequalify subcontractors.

SDI Contractors responding to the survey do not judge their prequalification process as invasive or an administrative burden on the subcontractor. Ninety-one percent of those contractors with an SDI program assert that they have a policy to protect the privacy of the sub's information. In addition, respondents

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 contractor respondents assert that sureties neither respond in a timely fashion nor address their needs or concerns. They submit the surety typically neither executes a remedy that minimizes project cost for the owner/GC nor one that minimizes project delay. Approximately 87% of the SDI contractor respondents share this opinion. Even amongst non-SDI contractor respondents, 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 participating in the study 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: SDI Contractor respondents 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 those responding disagree with the statement 'SDI is priced to the project owner at, or slightly less, than surety bonds'. Respondents also claim that their project owners are made aware of the pricing structure for SDI.

SDI contractors participating in the study believe that SubGuard® provides better coverage for subcontractor risk on larger projects (only 13% disagreed with this assertion). Compared to subcontractor 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 respondents indicated that SDI's expanded subcontractor coverage limits were an important consideration in their decision to implement a SubGuard® program.

SDI Contractors responding to the survey assert that owners do not prefer subcontractor bonds. They do not believe that subcontractor bonds provide the project 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 contractor respondents and eighty-seven percent (87%) of only those respondents with a SubGuard® program do not think subcontractor surety bonds are a good value. The vast majority of participating SDI contractors are satisfied with their SubGuard® program with only 2% indicating dissatisfaction.

Risk Management: SDI contractor respondents 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 respondents that had evaluated SDI and elected not to participate in the program.

Eighty-six percent (86%) of SDI contractors participating in the study believe that the program helps them become better managers of subcontractor risk and enhances their ability to more proactively manage poor subcontractor performance. SDI contractors do not think that the use of SDI dampens their efforts to resolve subcontractor disputes nor increase the likelihood of unwarranted default. They disagree that SDI affords a defaulted subcontractor little leverage or recourse except though litigation. In addition, they

assert that its use does not pose a False Claims Act liability on federal work. Respondents with greater than 20% of their annual volume consisting of government work more strongly agree with this assertion. SDI contractor respondents also submit that the lack of case law does not discourage the use of SDI. However, those evaluating the program considered it a deterrent.

Subcontractor Participation: SDI contractor respondents claim the use of SDI broadens the pool of subcontractors for a project, in part because a majority (67%) submits that the program encourages the use of small and minority subcontractors that may not be able to provide a surety bond. Conversely, a majority (75%) do not believe bonding increases subcontractor competition for a project nor does it ensure the participation of better quality subcontractors (79%). Respondents (81%) assert that SDI does not create a disincentive to use subcontractors not already enrolled in their SubGuard® program. SDI contractors 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 $100k to $850 million (m) with an average of $46.0m. The annual volume of subcontractors with no SDI experience ranged from $700k 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.

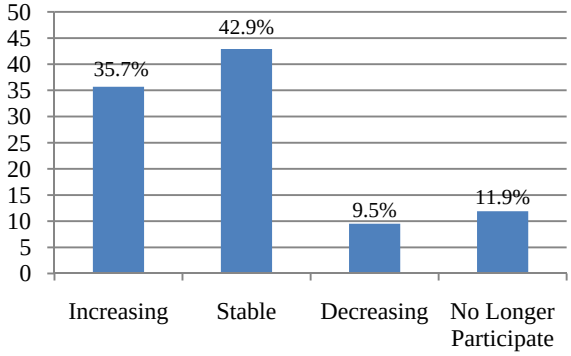
Subcontractor Program Knowledge and Status

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 subcontractor respondents with SubGuard® exposure have experienced increasing or stable enrollment. Conversely, one in ten has seen an enrollment decrease and 12% of the subcontractors participating in the study no longer participate in the program.

Figure 7:
SubGuard® Program Status



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 subcontractor surety bonds or SDI.

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

Respondents 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%). Respondents 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 percent (25%) of the respondents thought the contractors did not have an effective policy.

Subcontractor Default Response: Subcontractors participating in the study 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 subcontractor surety bonds. With the exception of these variables, subcontractor respondents 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 the subcontractor respondents 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 that participated in the study believe that possible cost savings is a significant contractor 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.

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

Risk Management: In the event of a default, subcontractors participating in the study 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 when determining the default of a subcontractor. Respondents 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 if used in lieu of the statutorily required contractor surety bonds.

Subcontractor Participation: Subcontractors responding to the survey submit that most subcontractors would prefer to furnish a surety bond. They think bonds ensure better quality subcontractors and suppliers. Respondents 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.

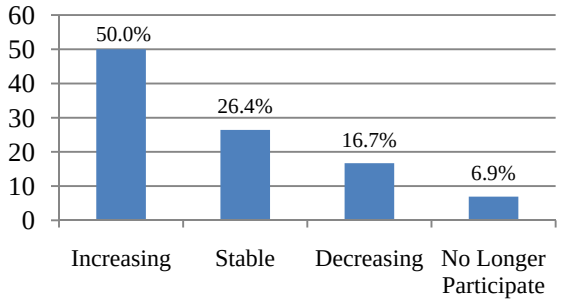
Bond Producers

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 participating in the study. The insurer that is offering SDI, and contractor respondents 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 participating in the study. Therefore, analyzing sureties and bond producers collectively as a group would be inappropriate. Consequently, the following findings are limited to bond producers.

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.

Figure 8: SDI Program Status



The clients of bond producers had an average annual SDI subcontractor enrollment ranging from 2% to 100% with a mean value of 34%. A majority of the bond producer respondents indicated that the use of SDI was stable or expanding. As shown in Figure 8: SDI Program Status, 76.4% of the respondents 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 producer respondents 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 subcontractor capability and capacity, in part because they do not think contractors possess the skill to translate subcontractor financial and performance data into project and aggregate bonding limits. Respondents view surety prequalification services as an advantage for surety bonding services.

Bond producer respondents with SDI experience purport that subcontractor bondability is typically a prerequisite for enrollment in a SDI program and they are reluctant to provide letters addressing bondability. Letters of "bondability", sometimes called "sunshine letters" or "good guy letters," are letters requested by obligees as part of the obligee's prequalification of contractors or subcontractors to demonstrate that such parties have an established surety credit relationship in place to obtain bonds. Such letters are not intended to create enforceable obligations for the issuance of performance and payment bonds by sureties. As a result, sunshine letters may be indefinite and typically are conditioned on the principal continuing to meet the surety's normal underwriting standards, including the principal receiving acceptable contract terms and maintaining its sound financial condition.

Bond producers participating in the study submit that a SDI program requires the contractor to have a more intensive subcontractor 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: Bond producer respondents view surety claims service, surety responsibility for default remedy, and first dollar coverage as advantages of subcontractor 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".

Respondents 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, respondents 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 producer respondents agree that the surety addresses the needs and concerns of the GC and executes a remedy that minimizes project delay. In addition, those with program experience submit that SDI gives the contractors greater control and flexibility to manage subcontractor default and improves a contractor's ability to complete a project on time. A majority of these bond producer respondents 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 participating in the study believe that subcontractor payment and performance bonds are a good value and are preferred by owners over SDI to manage the risks of subcontractor failure or default. They submit that project owners prefer that their general contractors use subcontract bonds to manage the risk of subcontractor default. Respondents also submit that assurance for subcontractor performance and payment protection for suppliers and second tier subs are advantages of subcontractor surety bonds.

Respondents 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 by the contractor to the owner at, or slightly less, than surety bonds. Bond producers participating in the study do not believe that SDI provides increased coverage limits for a defaulted subcontractor. Because of the per loss and aggregate limitations with an SDI policy, they assert that subcontractor surety bonds provide better coverage on larger projects and better payment protection for the project owner. In addition, 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: Bond producer respondents familiar with SDI believe that the 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.

Respondents do not 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: Respondents (68%) think subcontractor 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 completing the survey 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 contractor 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. Those that no longer participated or experienced decreasing enrollment were dissatisfied with the SDI program. These respondents do not think SDI encourages contractors to become better managers of subcontractor risk and believe its use dampens contractor efforts to resolve disputes. They submit that the program does not encourage the use of small and minority subcontractors 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

The general contractor was bonded on 99.4% of the work performed for government agencies and on 90.2% of the work performed for public institutions and universities. Conversely, private owners responding to the survey required the contractor to be bonded on only 13% of their work. Collectively, owners participating in the survey bonded the general contractor on 84% of their volume.

Owner's 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 practice, the federal government and most all of the states do not require subcontractors to be bonded, but that does not prevent contractors from bonding any, or all, of the subcontractors on their work.

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: Owner respondents 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, respondents 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: Respondents 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 subcontractor surety bonds. Conversely, those respondents 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 subcontractor 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 who participated in the study view possible cost savings as a significant contractor 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 subcontractor surety bonds.

Contractor SubGuard Program Data and Loss History

In addition to assessment of subcontractor 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 as of the time of this study, this represents approximately 40% participation. 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.

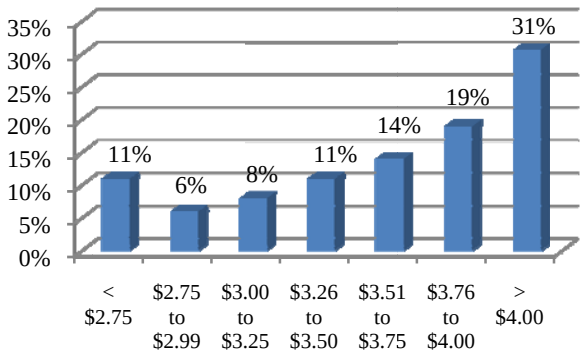
Table 2: Enrollment Trend

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

As shown in Table 2: 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.

Figure 9: SubGuard® Fixed Premium



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%.

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 3: 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 3). 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.

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 4). 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 5).

Figure 10: SDI Cost to Owners

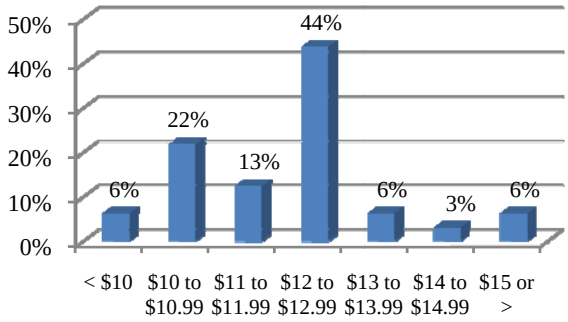


Table 4: Policy Deductible

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 5: 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 6 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 7).

Table 6: 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 7: 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 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 8).

Table 8: 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

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 and excluding the deductible(s) an average of $552,000 (81%) was 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 enhance and refine research methodology, questionnaire development and data collection, a total of thirty-five (35) personal interviews were conducted with industry professionals during the course of this study. Interviewees included 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 regarding SDI and subcontractor surety bonds. 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 from the data collected - 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 in excess of $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 in the private sector where the contractor has the flexibility to select and control subcontractor participation. Subcontractors unknown to the firm or not meeting its 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 9 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. They typically require a *Sunshine Letter* as an indication of the subcontractor's ability to furnish a surety bond.

- *Bond producers are willing to provide 'Sunshine Letters' for subcontractors on SDI projects.* A majority (61%) of bond producers indicated that they were 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%) indicated that bond producers were reluctant to provide evidence of subcontractor bondability on projects with a SDI program. Bond producers may not want to furnish '*Sunshine Letters*', but they are typically providing this service on SDI projects.

- *Contractors with SubGuard programs have the ability to adequately prequalify subcontractors.* Bond producers and subcontractors submit that sureties have better access to subcontractor 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 subcontractor's information. Even a majority of bond producers support the position of the contractors.

Subcontractor Default Response (See Table 10 in the Appendix)

- *Sureties typically do not execute subcontractor 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. 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, the surety must balance often competing legal obligations to the obligee and to the principal. It may not be their responsibility to minimize project cost or delay for the owner or contractor. In addition, they have a number of other legal and process limitations regarding default remedy and response.

- *Surety subcontractor 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. Dissatisfaction with surety response to subcontractor default was an important consideration for 82% of the contractors that decided to initiate a SubGuard® program.

  From a surety perspective, once there is a default they have competing obligations. Surety response is bounded by the contractual obligations, rights, and the defense of their principal and any other defense to which the surety is entitled. In addition, proper surety investigation of an alleged subcontractor default can restrict the perceived timeliness of response. These obligations and responsibilities may rightfully prevent surety response in accordance with the perceived needs and concerns of the contractor.

- *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 SDI 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 11 in the Appendix)

- *Possible cost savings to the contractor 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 knowledgably 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 (which is typically 200% of the value of the subcontract work) 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, if properly executed, 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 on private work and can file a claim against the property.

  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 required 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 prime contractor surety bond, the owner would be assuming the payment and performance risk of the contractor. In that case if the owner obtained 'financial interest endorsement' 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 provided 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 12 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 have the ability to 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). The majority of SDI contractors interviewed submit that their subcontractor prequalification process evaluates both the subcontractor's operational capabilities and financial strength. Most believe their process equals or exceeds the surety's prequalification process. SDI contractors have 'skin in the game' and as a result often 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. SDI contractors (and Zurich) that were interviewed claimed that the majority of their subcontractor defaults were 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.

- *SDI is not a substitute for statutory bond requirements required of prime contractors:* Subcontractors and bond producers do not think that SDI complies with the claim rights and payment protection *intent* of the Federal Miller Act on public work while contractors and owners are neutral on his matter. However, The Miller Act only addresses general contractor bonding on federally funded 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, the use of SubGuard® does not violate the requirements of the Federal Miller Act.

  Use of SDI on federally funded projects can pose legal concerns/liability regarding the False Claims Act. Contractors submit that SDI does not pose a False Claims Act liability on federal work and only 26% of bond producers assert that SDI's use poses a liability. Both bond producers and subcontractors are statistically 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 13 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.

Looking Forward

This study was initiated in the summer of '08 and data was collected in the fall of 2008. Since 2007 the U.S. has been experiencing an economic slowdown and in late 2008 a developing financial crisis further depressed construction activity. The evolving economic conditions 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 in large part predicated on the depth and duration of the current economic climate.

- *Subcontractor prequalification will be enhanced*. Contractors and bond producers perceive an increased risk of subcontractor failure in the current market. Contractors 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 of the SDI contractors and bond producers interviewed 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 amongst SDI contractors 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.

The data obtained from this study provided valuable insight and perspective from contractors, subcontractors, bond producers and owners regarding subcontractor surety bonds and subcontractor default insurance. However, additional study is warranted to investigate a) an apparent contradiction in the findings, and b) an area of importance where the survey data was inconclusive. In addition, a follow-up study is recommended to investigate performance of the SDI program during adverse economic conditions.

- One of the findings of this study was that "*SDI encourages the use of small and minority subcontractors that cannot obtain bonding.*" This would indicate that SDI contractors are typically willing to self-insure small and minority contractors that cannot obtain bonding. This deliberate risk choice is not consistent with the risk management approach typified by the SDI contractors involved in this study. In addition, it appears to be in conflict with another finding of this research effort: "*Subcontractor 'bondability' is typically a prerequisite for enrollment in SubGuard®.*" Additional investigation is warranted to determine if the use of SDI *universally* encourages the use of small and

minority subcontractors or rather limited to an effective tool to temper subcontractor risk when small and/or minority participation is a contractual requirement for the contractor.

- Comparative data regarding coverage limits and length of coverage (tail) for SDI and subcontractor surety bonds was inconclusive. Risk coverage and terms were not a primary focus of this study. However, these are important risk management considerations and deserve investigation.

- Much of the opinion data and most all of the SDI program loss history were collected from, or during, a period of expanding construction activity. The economic recession starting in late 2008 and the corresponding reduction in construction activity have elevated the risk of subcontractor default and financial failure. It would be appropriate to conduct a future study to evaluate and compare the findings of this research effort with program performance and SDI contractor program loss history during a recessionary period.

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Appendix

Table 9: Subcontractor Prequalification

Respondents with SDI Experience

Subcontractor Prequalification	CM / GC	Sub	Bond Producer	Owner
'---' = neutral (neither agree or disagree), 'na' = not applicable				
Prequalification Skill & Capability				
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 (3rd party) prequalification.	Adv.	Adv.	Adv.	---
Contractors lack the skill to establish project and aggregate bond limits.	Disagree	Agree	Agree	---
SDI Prequalification Process				
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
SDI Enrollment				
Bondability 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 10: Subcontractor Default Response

Respondents with SDI Experience

Subcontractor Default	CM / GC	Sub	Bond Producer	Owner
Subcontractor Surety Bond				
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 1st dollar coverage in the case of default.	---	Adv.	Adv.	---
Surety claim service.	Disadv.	---	---	---
Surety resources & assistance available to principals.	---	Adv.	Adv.	---
Subcontractor Default Insurance				
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 11: SDI Cost & Pricing, Coverage and Satisfaction

Respondents with SDI Experience

Cost &Pricing, Coverage, & Satisfaction	CM /GC	Sub	Bond Producer	Owner
'---' = neutral (neither agree or disagree), 'na' = not applicable				
Cost & Pricing				
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	---
Coverage				
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 & 2nd 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
Satisfaction:				
We are satisfied with the SDI program.	Agree	Disagree	---	---
Project owners prefer subcontractor bonds.	Disagree	---	Agree	---

Table 12: Risk Management

Respondents with SDI Experience

Risk Management	CM / GC	Sub	Bond Producer	Owner
Prequalification & Management of Subcontractors				
SDI:				
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	---
Financial Risk				
The large deductible is a significant deterrent to the use of SDI.	Disagree	---	---	na
SDI carries greater financial risk for the contractor.	---	---	Agree	---
Dispute Resolution (SDI):				
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
Legal (SDI):				
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 13: Subcontractor Project Participation

Respondents with SDI Experience

Subcontractor Project Participation	CM /GC	Sub	Bond Producer	Owner
'---' = neutral (neither agree or disagree), 'na' = not applicable				
SDI:				
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	---	---	---
Subcontractor Bonds				
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	---

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