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Provide to
Sen. L+C cmte
in support of
HB 7

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COMPILATION OF WRAP-UP ADVANTAGES FROM
RISK MANAGERS,
PUBLIC AUTHORITY ADMINISTRATORS,
INSURANCE BROKER/CONSULTANTS,
RISK MANAGEMENT CONSULTANTS,
MANAGEMENT CONSULTANTS AND EDUCATORS

VIA WUI+
DEPT ADM JNU
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RIMS/EXEC./82-242

TO: JOHN HAYWOOD

THIS IS TO INFORM YOU CUR CORPORATION HAS DESIGNED AND MARKETED AN OWNER CONTROLLED WRAP UP PROGRAM SINCE MAY OF 1974, SHORTLY AFTER OUR 13.4 BILLION DOLLAR PROJECT WAS LAUNCHED. WE WILL COMPLETE CONSTRUCTION IN 1985.

I AM ACTING AS DIRECTOR OF RISK MANAGEMENT AND INSURANCE SINCE NOVEMBER OF 1973 AND I AM VERY SATISFIED WITH THE RESULTS. WE ARE ABLE TO DIRECT THE MARKETING AND THE PLACEMENT OF THE INSURANCE FOR ALL PARTIES INVOLVED.

I STRONGLY RECOMMEND USE OF WRAP UPS IN SIMILAR PROJECTS.

MARC DARBY

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The James Bay Project: A Symbol of Engineering and Risk Management Expertise

by Marc Darby

It began in 1971, when a Quebec government law created the Société d'énergie de la Baie James (SEBJ) and mandated the construction and exploitation of the hydroelectric resources of an immense, nearly inaccessible and practically uninhabited territory in northern Quebec. La Grande Complex, as it has come to be known, is almost 110,000 square miles in area, 450 miles from east to west and 400 from north to south. It forms an enormous jigsaw puzzle—the pieces of which are all essential. When work was at its peak in 1978 and 1979, 18,000 workers braved isolation, solitude and extreme cold to double Quebec's hydroelectric power.

Evolution of the La Grande Complex

The La Grande Complex is being constructed around the La Grande River, which is Quebec's third largest major watercourse. The river has a drainage basin of approximately 55,000 square miles and an average flow of 5,500 cubic feet per second. The La Grande, the main tributary of James Bay, flows over 497 miles, with a drop in elevation of 1,235 feet.

Construction was divided into two phases. The first of which included construction of three power stations on the La Grande River: LG 2, LG 3 and LG

4, each with its large forebay.

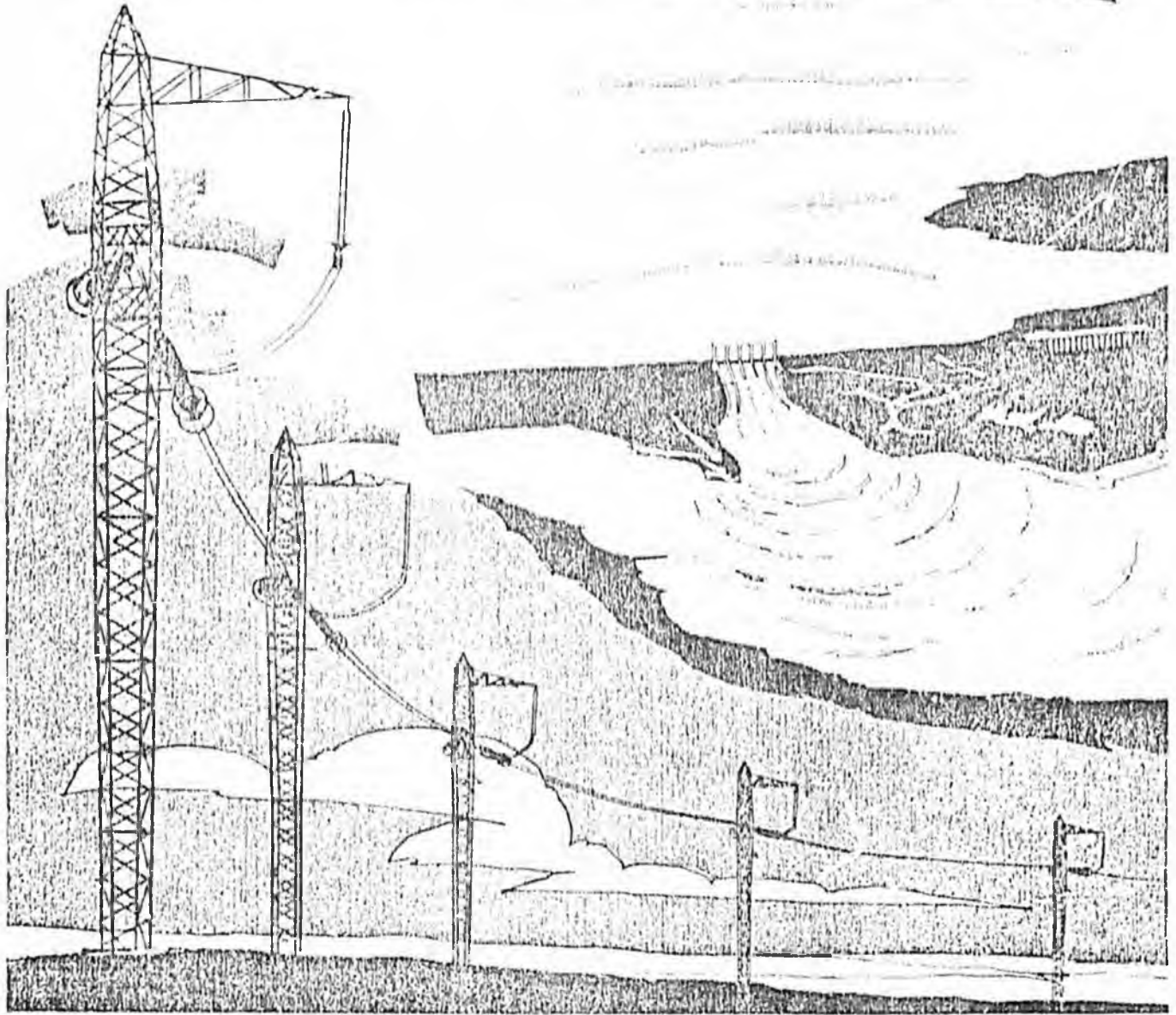
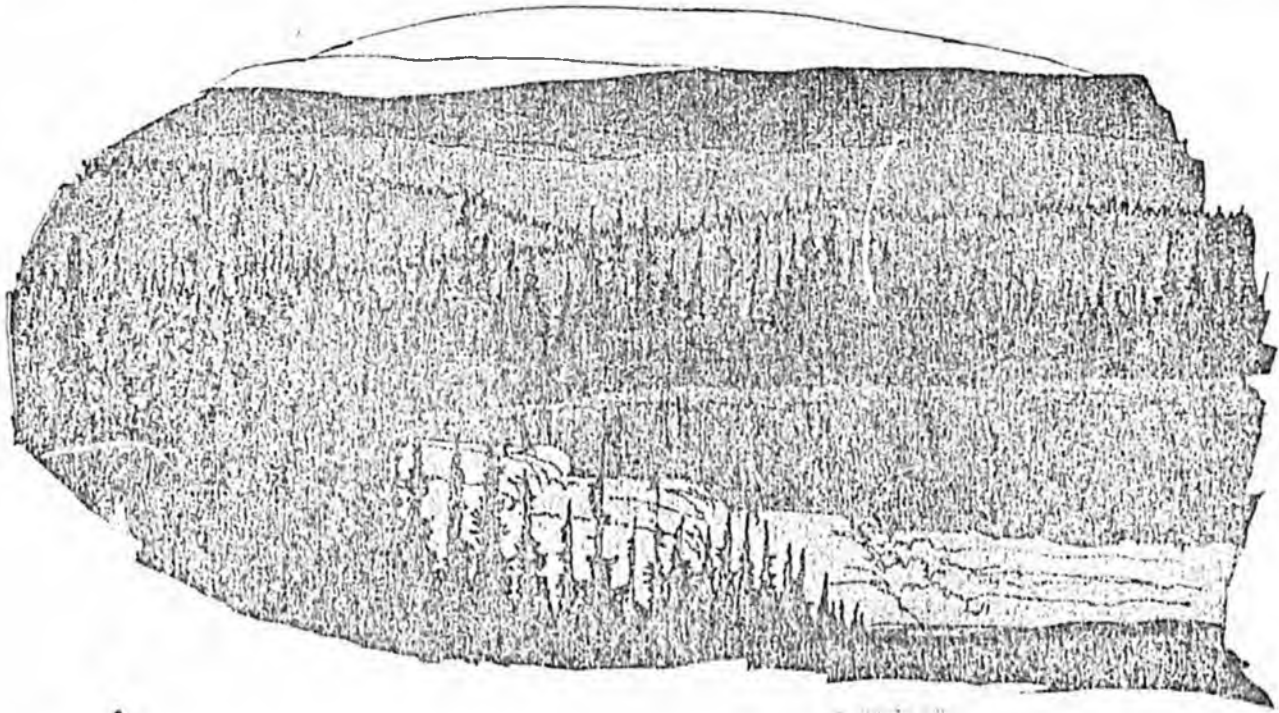
To increase the potential of the La Grande River, the La Grande Complex also involves the diversion of two other rivers—the Eastmain to the south and the Caniapiscan to the east—resulting in the formation of two immense reservoirs. However, to hold the waters of the forebays and reservoirs, the construction of 203 dikes and eight dams was necessary. The longest of these structures is nearly 2.5 miles and the highest is approximately 525 feet. All are constructed of natural materials found in the area, including moraine, sand, gravel and rockfill.

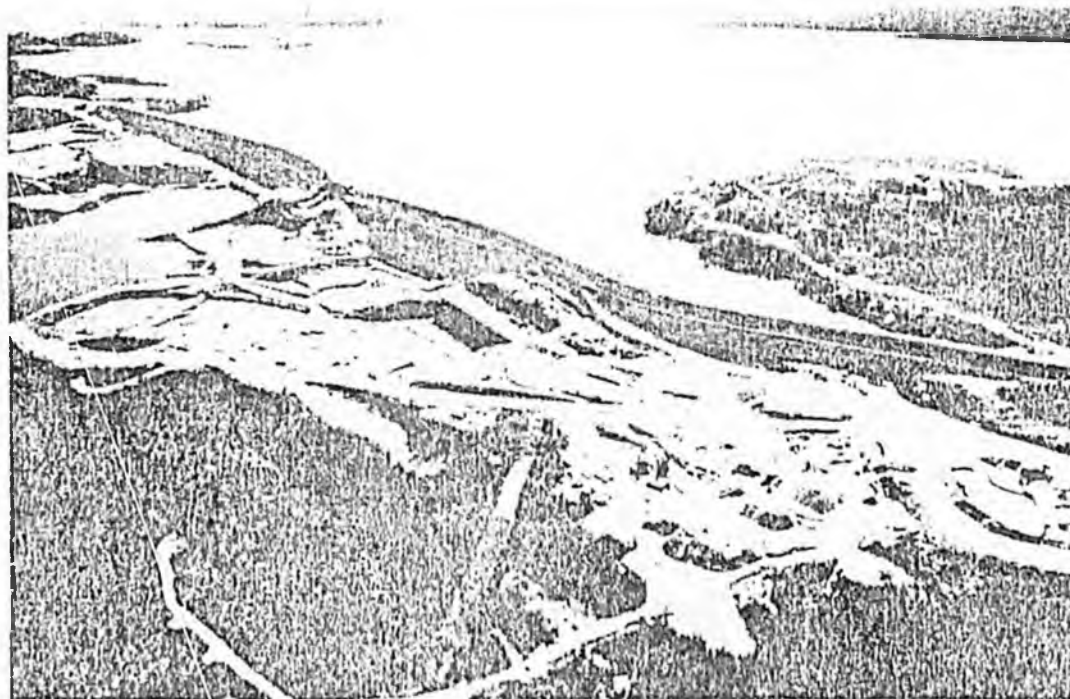
By January 1982, construction was 77 percent completed. With its 37 generating units, Phase 1 of the La Grande Complex has an installed capacity of 10,282 megawatts, and its annual production will reach 62 billion kilowatt-hours. The La Grande Complex will enable the province of Quebec to increase its installed capacity by 61 percent and its generation of electricity by about 70 percent.

Converting Water to Power

Located about 70 miles from the mouth of the La Grande River, LG 2 is the largest of the three generating stations of the La Grande Hydroelectric Complex Phase I, and, in fact, is the largest underground powerhouse in the world. Its 16 generating units, each with a capacity of 333 kilowatts, have already been delivered to Hydro-Québec for operation. With its total installed capacity of 5,328 mega-

Marc Darby is director of risk management and insurance for La Société d'énergie de la Baie James, Montreal. Mr. Darby has served as president of the RIMS Quebec Chapter, has been a member of the Society's board since 1977 and is currently the first vice president of RIMS.





The LG 3 reservoir as it looks when it is partially filled: the main dam, spillway and powerhouse.

walls, LG 2 can generate 35.8 billion kilowatt-hours annually. The site also features an impressive spillway where water cascades down what looks like a gigantic stairway. This structure can discharge up to 53,411 cubic feet of water per second.

LG 3 is the site of the longest dam of the La Grande Complex. Engineers chose a location where an island once divided the river. This island, because of its rockbed, was also chosen to be the seat of the spillway that appears to divide the dam into two sections. The LG 3 powerhouse was built on the southern bank of the river in a deep trench excavated just below the downstream toe of the dam. It houses 12 generating units that will generate 12.3 billion kilowatt-hours annually, and its installed capacity is 2,304 megawatts. The first generating unit became operative in June, 1982.

The LG 4 powerhouse, which is planned to be commissioned in February, 1984, is also a surface structure. With its installed capacity of 2,650 megawatts, it will become the second most powerful power station in Quebec after LG 2. Annual uninterrupted energy from the nine generating units to be installed there will reach approximately 14.1 billion kilowatt-hours.

Harnessing River Power

About 93 miles south of the La Grande River, the Eastmain and its tributaries, the Opinaca and Petite Opinaca, have been diverted into the LG 2 forebay. This additional inflow increases the generating capacity of LG 2 by 25 percent.

Located at the northeast end of the territory, the Caniapiscan River used to flow north into Ungava Bay. Engineers, however, cut it off and directed the

water flow towards La Grande river resulting in the formation of a reservoir more than 2,485 square miles, the largest surface of water in Quebec. Its usable storage of 124 billion cubic feet contributes 35 percent of all the electricity generated by the three powerhouses.

The energy transmission system, which brings the electricity to the consumption centers, required the construction of five 735-kilovolt lines in three separate corridors. These lines, 3,200 miles long, required 11,650 towers.

The overall cost of the La Grande Complex, including the energy transmission system and interest, will finally be \$14.6 billion (Can.).

Infrastructures and Living Conditions

The rivers of the James Bay territory were not uncharted. Between 1965 and 1971, Hydro-Quebec had sponsored several exploration campaigns and, when it was decided to develop the potential of the La Grande River, SEBJ inherited this data. SEBJ then conducted further exploration work.

The first task was to build a road to the sites of the future hydroelectric projects. In 1971, an army of men and machines went to work to build the road linking LG 2 and the town of Matagami. This road, approximately 450 miles long, was built in 450 days at a cost of \$350 million (Can.). While construction of this north-south road was being completed, SEBJ began construction of an east-west axis which led to the other job sites of the La Grande Complex. A total of 932 miles of roads was required to be constructed during this stage of the project. A fleet of planes was also acquired. And, when work was at its peak, SEBJ's six Convair 580 aircraft transported more

than 100,000 workers annually. Between 1972 and 1980, SEBJ used its own Hercules aircraft to transport freight.

Coinciding with road construction activities, preparations were made for the arrival of the thousands of project workers. This hardy lot would be living in isolated and remote areas, far from their families, in an inhospitable environment and harsh climate. In order to offer workers as many of the comforts of modern life as possible, SEBJ resolved to devote special attention to living conditions.

Major resources were invested so that every large campsite (a minimum of 1,000 residents for three years or more) could be favorably compared to an average town. Besides municipal services, a whole range of community services, including a hospital, laundry, administrative center and chapel, were provided. Equally significant investments were spent on recreation, to provide pleasant forms of relaxation for the workers. To direct these activities, SEBJ hired recreation and sports specialists. Even in the early years, a satellite and microwave communications system was in place, so that workers could receive radio and television programs and communicate with their families by telephone. Major daily newspapers are also available on the sites only a few hours after publication.

Obviously, construction of the La Grande Complex has been an immense logistical problem. A fine example: 110,000 tons of food will be consumed between 1972 and 1985. In 1978, the 18,000 workers breakfasted on some 80,000 eggs and a ton of bacon!

SEBJ—A Project Management Company

SEBJ acts as the project management company on behalf of Hydro-Quebec, Quebec's state-owned monopoly electrical utility. Its role consists of supervising all activities, from exploration to the delivery



An overview of project's various construction sites.

of the powerhouses and supporting structures to Hydro-Quebec, and assuring that budgets and schedules are respected.

The first challenge faced by SEBJ in building the La Grande Complex was the formation of an appropriate administrative structure. This structure had to be flexible and dynamic, because of the limited duration of the construction and the fluctuations in the size of the work force.

SEBJ decided to fill its manpower needs with available Hydro-Quebec resources and two outside firms: Lalonde, Valois, Lamarre, Valois et Associés, Inc. and Bechtel Quebec Ltd.

The construction of the first phase of the La Grande Complex, which is now nearing completion, has had a major economic impact. Of the overall cost of \$14.6 billion (Can.), actual construction will take some \$10.75 billion (Can.), \$3.7 billion in wages and \$7.0 billion for the purchase of goods and services. Since SEBJ entrusts all work to outside firms, Quebec contractors and manufacturers have greatly benefited from the development of the La Grande River. Companies located outside Quebec Province have also benefited from the project. For instance, purchases of goods and services outside Canada have amounted to nearly \$1.72 billion (Can.).

Phase I of the La Grande Complex is only the first of the hydroelectric projects to be built by SEBJ. During the next 10 years, whenever requested by Hydro-Quebec, the company will undertake construction of three other hydroelectric projects: Phase II of the La Grande Complex, the Grande Baleine project and the Nottaway-Broadback-Rupert (NBR) project. These three projects will require investments of at least three times those required to build Phase I.

The Risk Management Program

The risk management mechanisms that must be developed when starting a project of the scope and nature of the James Bay project are as varied as they are complex. Since SEBJ was ordered to build this "megaproject" according to a budget approved in 1971, it was essential to cushion the financial losses a disaster might entail, in order to minimize the risks of exceeding this budget's parameters. It was decided that insurance would be one of the major financial tools. Thus, the mechanisms to cover potential risks were progressively instituted shortly after the creation of SEBJ.

In early 1972, an Insurance Committee was formed and given the mandate to take the steps necessary to protect the company against risks resulting from expanding activities. The committee's

Wrapping Up Big Construction Projects*

Wrap-up insurance, an idea that first was popular in the late 1940s and early 1950s, is again proving attractive to owners of some of today's most imposing construction ventures.

Hospitals, synfuel projects, shopping malls, office towers, industrial facilities—even gambling casinos—have all found "wrap-up" ideal for their purposes.

Wrap-up insurance combines key units of construction coverage, such as workers compensation, general liability and builder's risk, into a single package placed and financed by the project owner. The general contractor and subcontractors are thus relieved of the necessity to buy required insurances for that particular project.

When first developed, wrap-up insurance appealed to owners because they realized they were paying for contractors' coverages in any case (since these costs were part of the construction companies' bids). The idea of marketing a coordinated program to a single underwriter made practical sense.

Because of the larger dollars involved, the owners obtained reduced premium rates and better coverages and the underwriter, who got more dollars to work with, could afford to give the owner more services.

Wrap-up insurance hit a lull in the early 1970s when construction activity declined and underwriters became indifferent to the coverage due to economic conditions.

In 1974, however, many states passed enabling legislation that revitalized the wrap-up concept. These laws allowed the combination of several construction premiums to be viewed as a group premium for discount and retrospective rating purposes. Prior to this, each premium had been viewed individually.

Ensuing activity in office construction, trade centers and other large projects caused "wrap-up" to return in style. Owners of those projects valued at a construction cost of \$25 million (minimum) in suburban areas, and \$50 million (minimum) in urban centers were the first buyers.

The owners achieve five key benefits:

- *A coordinated loss control and claims handling program that applies to all work at the site.* Each party in the construction project is thoroughly familiarized with the loss control program and agrees to support it. With the owner's

*This article appeared in the Spring 1982 edition of *Private Opinion*, published quarterly by Johnson & Higgins, and is reprinted with its permission.

unqualified support, the single, well-structured safety program usually reduces the ultimate project cost. The coordinated claims program allows a uniform approach to claims handling. This, in turn, reduces intercompany insurance disputes and costly subrogation, and results in rapid and satisfactory claim settlements. Uniformity and reduced claims costs also contribute to sound relationships among all parties to the project.

- *Concurrent and uniform coverage for the owner, contractor and all subcontractors.* The greatly reduced administrative requirements of the insurance program also cuts costs.
- *Improved public image.* The owner, who will be identified with the site for many years, is seen by the public as the one responsible for prevention of serious injury or damages. The contractor or subcontractor is less visible. The combination of an effective safety program and a responsive claims procedure that yields fair and equitable settlements avoids adverse publicity. Centralized communication with media by one insurance company in case of an incident avoids the problem of several underwriters seeking to lay financial responsibility on each other.
- *Contractor involvement.* Since wrap-up makes insurance available to all approved contractors, those who might not otherwise be able to secure insurance are covered automatically. This helps promote the use of minority contractors on major projects.
- *Reduced cost.* Mass buying from one underwriter gives the owner leverage with insurance companies. A combination of safety, claims control and mass buying often produces significantly lower costs.

Keys to the cost efficiency of wrap-up insurance are both the safety program and the rating plan developed by the insurance broker and accepted by the underwriter. Because there is a substantial premium to be placed with one underwriter, the broker can design a variety of premium funding mechanisms.

Wrap-up insurance is a time-tested construction coverage concept. It is having a well-deserved revival, not only for its convenience and efficiencies, but also for its broader advantages—building protection for human life and keeping the owner's image at its brightest.

first task was to arrange for the selection of the broker(s) best able to provide adequate services to insure property under construction. The insurance of other risks was relegated to relatively minor status.

In order to obtain a versatile "talent", it was

decided to innovate and, instead of selecting a single broker, a consortium of brokers was formed. In May 1972, the brokerage firms of Dupuis, Parizeau Tremblay, Inc., Gerard Parizeau Ltée. and Stewa Smith (Canada) Ltée. were selected to form Le Co

sortium des Courtiers d'assurances de la Société d'énergie de la Baie James. This brokerage group became known as the Consortium.

Working in close collaboration, the Insurance Committee and the Consortium were responsible for:

- evaluating the potential risks as construction progressed;
- drafting the texts of insurance policies for builder's risks and public liability that were adapted to the project; and
- underwriting and renewing various other insurance policies necessary for protection against incipient risks.

Meanwhile, a risk management and insurance consultant was hired to evaluate this approach, make a risk evaluation of the projected construction activities and submit any recommendation to cope with the corporation's eventual risk management exposure.

The consultant confirmed that most of risk treatment measures, taken to that point, were satisfactory, and further recommended the appointment of an insurance coordinator. The title of this position, filled on November 5, 1973, has since been changed to Director of Risk Management and Insurance to more accurately reflect the department's activities.

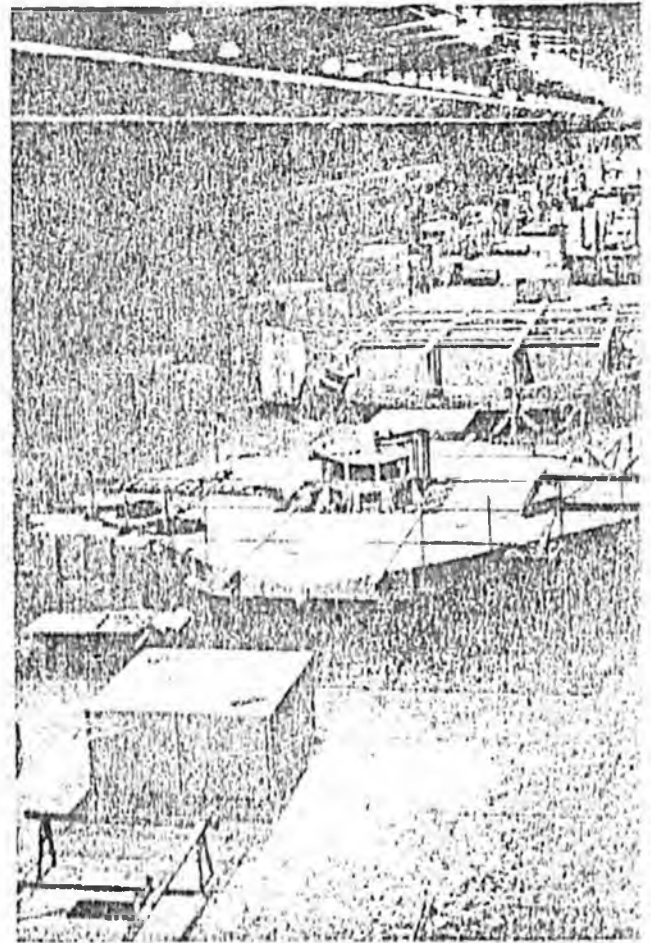
By the end of 1973, the texts of the policies, as well as the negotiations with the numerous insurers, were nearing completion. In fact, the policies were underwritten on May 1, 1974.

Underwriting the Builder's Risk and CGL Policies

The eventual adjudication of numerous contracts to consulting engineers, contractors and various suppliers presented a situation of a special nature.

In order to avoid a situation wherein each company under contract underwrites its own policy, each with its different conditions, and to prevent the premiums split among many insurers, the two policies were designed to insure each and every company—engineers, contractors and suppliers—under contract with SEBJ.

The errors or omissions of consulting engineers or architects entering into contract with SEBJ presented a different and specific problem. Since most of these contracts were long-term, SEBJ wanted to avoid that a claim be publicly discussed in a court of law. Therefore, the Builder's Risk policy was drafted with a section insuring SEBJ against damages resulting from the error or omission of an engineer without having to prove the legal liability of the engineer or the architect.



A view of the underground power house in LG 2.

Since the Builder's Risk policy insured the properties of all those working on the project site, the Comprehensive General Liability (CGL) policy was designed to exclude the indemnification of damage to goods or properties owned by any of the insured. Thus, a substantial reduction of the CGL premium was obtained. The CGL was to indemnify only for damages to residents of the territory, to visitors or, in case of damages, to any person not insured under the Builder's Risk policy.

The two policies contained, among others, the following conditions:

- wrap-up form, insuring the SEBJ, its constituent corporations and any engineer architect, contractor or supplier to perform on the territory,
- specific waiver of subrogation by the insured against any insured person or legal entity; and
- designation of SEBJ as agent of all other insurers for any negotiation relative to the policies.

The underwriting of the policies coincided with the start of construction. The policy limits, therefore

had to reflect the possible maximum loss to which the properties were to be exposed over the next two or three years. All parties concerned were cognizant of the fact that a revision of said limits was possible and, in fact, probable.

The Builder's Risk policy was underwritten with an original limit of \$15 million (Can.) with a sub-limit of \$30 million (Can.) for damages caused by an engineer or architect error or omission. Since works were to be performed in a remote area and most of the properties were insured by the Builder's Risk policy, the limit of the CGL policy was chosen to be \$25 million (Can.).

The projected annual investments of the corporation (approx. \$1.25 billion), the premium credits for different levels of deductibles and SEBJ's capacity to assume losses were some of the considerations that led to the selection of a \$1 million (Can.) deductible

under the Builder's Risk policy and \$100,000 (Can.) under the CGL policy.

Disseminating Information to Insureds

Since these policies were underwritten by SEBJ to its benefit and that of others insured, it became necessary to fully inform all other insureds. This was accomplished by supplying them with excerpts of the policies. Since then, extracts of the policies are supplied to all bidders by means of a section of the call for tender document. This insurance section eventually becomes part of the contract between SEBJ, its engineers, contractors or suppliers. This section also describes the obligations of SEBJ and that of other insureds in insurance matters (quotashare, loss reporting procedures, etc.).

With policy deductible levels too high to be fully absorbed by any of the other insureds, it became necessary to set a lower quota-share for them. However, the level of this different deductible had to be high enough to keep the other insureds aware of the necessity for them to install adequate safety measures. At the same time, the deductible had to be at a level such that the other insureds would not look to insurance to cover the financial losses and thus defeat the advantages of the wrap-up program. The self-assumed or imposed deductibles to other insureds was set at \$5,000 (Can.). The bid document imposes such obligations on all parties to the contract.

On July 1, 1977, SEBJ underwrote a new CGL policy to replace the one in force since 1974. Certain insurers, experiencing reinsurance difficulties, withdrew. The new policy carried a \$1,000,000 (Can.) deductible as opposed to the previous \$100,000 (Can.).

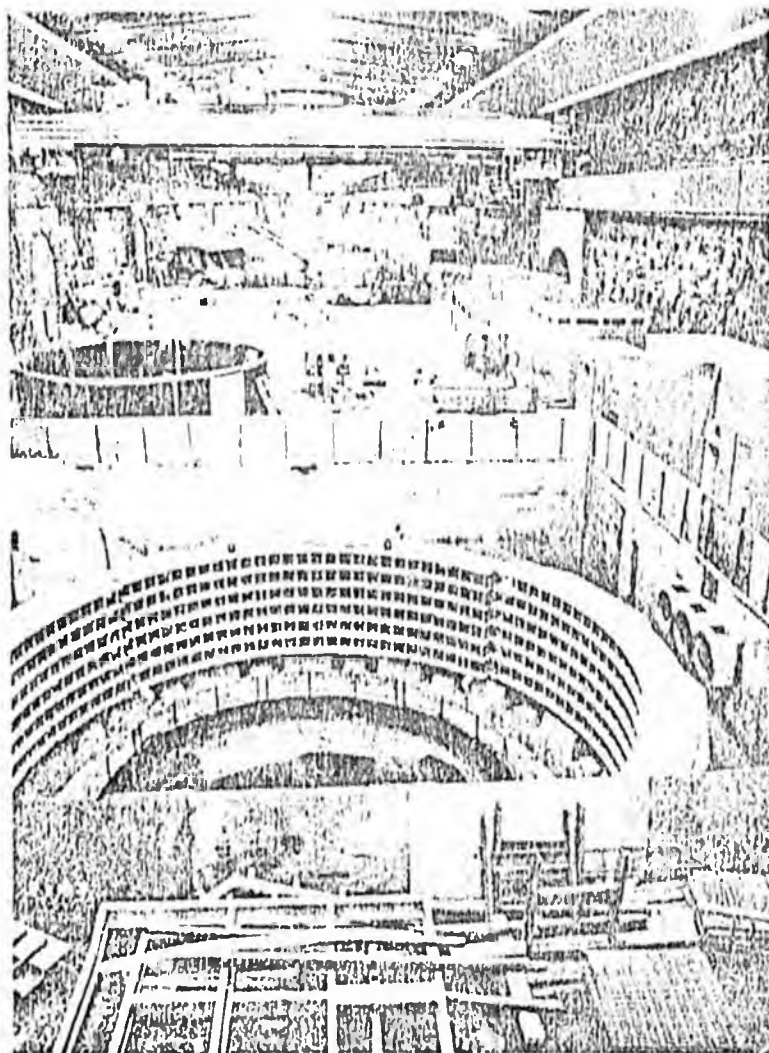
Major Insurance Revisions in 1981

The aforementioned insurance program remained in full force until the end of 1981 when a major revision of the loss financing tools was undertaken.

During the course of the project, SEBJ became a wholly owned subsidiary of Hydro-Quebec, and the Crown Corporation was mandated to generate and distribute electricity to the residents of Quebec Province. Furthermore, the approaching completion of the first powerhouse (LG 2) and its transfer to Hydro-Quebec was changing the whole context.

Considering the above factors, plus the fact that the loss experience was uniquely good, it was decided to:

- terminate the underwriting of the errors or omissions insurance;
- increase the levels of the self-assumed retention



The underground powerhouse in LG 2 is shown with its partially assembled unit in the foreground.



An aerial view of the LG-4 main dam. The power house is in the center, with the spillway to the right.

- look for increased policy limits commensurate with the possible maximum loss.

The levels of deductible or self-insured retention for damages to properties under construction have been set at \$10 million (Can.) and at \$30 million (Can.) for damages to fully operative completed properties. The quotations received from the underwriters, as well as their reaction, seemed satisfactory. They were to participate only to losses above the levels of operation type of losses. At the same time, these self-assumed levels could be safely assumed by SEBJ and/or Hydro-Quebec. A new policy wording, a technical report and a projected investment schedule were prepared and presented to different insurers. And, much to SEBJ's satisfaction, two policies, one primary with a limit of \$300 million (Can.) in excess of the self-assumed retention, the other with a \$700 million (Can.) limit in excess of the primary, were underwritten on January 1, 1982. In addition, the higher self-assumed retention levels, plus the fact that the errors or omissions insurance was not needed anymore, considerably reduced the insurance premium volume.

Thus, an additional retention of \$9 million (Can.) meant a premium saving of \$22.6 million (Can.) over the next five years. Based on the same investments, the premium for the program cancelled on January 1, 1982, would have been \$30.4 million (Can.) while the projected cost of the new program is \$7.8 million (Can.).

Good loss experience, the safest construction methods selected and the confidence in the expertise of SEBJ's designers and managers allowed such high levels of self retention.

Satisfactory Loss Experience

The losses incurred previously, considering the scope of the works and related activities, are most satisfactory.

As of May 1, 1982, 5,066 incidents have been reported. They represent all kinds of losses, from accidents to damages to permanent structures; from fires in dormitory to the cost of forest fire fighting expenses. The net total expenditures, plus reserve for losses that have not yet been paid for, total \$9,171,208 (Can.).

In most cases, contractors or suppliers are responsible for the first \$5,000 (Can.) of damage caused, and such recoveries are deducted from the totals of damages caused. Thus, as mentioned above, there is approximately \$9 million (Can.) left for disbursements.

With that commendable loss experience, coupled with the success of the construction project, it can now be safely said that SEBJ's policy on safety is bringing its dividends. Electricity has been generated some six months ahead of the original schedule, and the company now assumes a greater self retention.

The good loss record, as well as insurance coverage above a known self-assumed level, provide all SEBJ managers their "quiet night's sleep".

Received 10:12 AM 2-8-83

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WWLPYTHZ
TRI MET PTL
2/8/83
JOHN HAYWOOD, RISK MGR
STATE OF ALASKA

TO CONFIRM OUR TELEPHONE CONVERSATION OF 2/7/83 RE DESIRABILITY OF WRAP UP INSURANCE PROGRAMS FOR LARGE CONSTRUCTION PROJECTS.

THE PUBLIC INTEREST IS WELL SERVED IN THAT CENTRALIZED CLAIMS ADMINISTRATION PROVIDES ONE FACILITY TO FILE CLAIMS, REDUCING THE FRUSTRATION OF TRYING TO IDENTIFY THE PROPER CONTRACTOR OR SUBCONTRACTOR WHO (-ALLEGEDLY) COVERED THE CLAIMS. PREMIUM SAVINGS WILL BE REALIZED IN ALL AREAS OF INSURANCE DUE TO VOLUME DISCOUNTS. PROJECTION OF A 2 PERCENT SAVINGS IN PREMIUM FOR PROJECT TERM IS NOT OUT OF LINE.

VIRGIL WELLBORN, MGR
INSURANCE/CLAIMSW+
DEPT ADM JNU
V



BOARD OF COUNTY COMMISSIONERS

PINELLAS COUNTY, FLORIDA

315 COURT STREET

CLEARWATER, FLORIDA 33510

COMMISSIONERS

BARBARA SHEEN TODD, CHAIRMAN
JOHN CHESNUT, JR., VICE-CHAIRMAN
GABRIEL CAZARES
CHARLES E. RAINEY
ERUCE TYNDALL

February 7, 1983

Mr. John Hayward
Director of Risk Management
State of Alaska

Dear Mr. Hayward:

Pinellas County, Florida instituted an investigation of a wrap-up concept after presentation of a conventional quotation for an \$80 million resource recover plant was received at approximately \$4.7 million premium. The original insurer submitted a revised quotation of \$2.55 million with the wrap-up being quoted at a total cost of \$2.25 million. The following day the original conventional quotation was revised from \$2.55 million to \$1.85 million.

The contractor's insurance company provided the conventional quotes and Pinellas County's agent of record developed the builder's risk quotes.

Sincerely,

Robert J. Ellis
Risk Manager

sc

2:15 Pm
C.H.

DEPT ADM JNU
DE2-7-83 5:00

F S JAMES AGTN

JOHN HAYWOOD
JUNEAU ALASKA
TELEX NO 899 46-308

STATEMENT OF JAMES M MURPHY, CEO
OF WASHINGTON D C OFFICE OF FRED S JAMES & CO

SINCE 1964, FRED S JAMES & CO HAS DESIGNED AND ADMINISTERED COORDINATED INSURANCE PROGRAMS (WRAP UP) FOR SIX OF THE EIGHT HEAVY RAIL RAPID TRANSIT CONSTRUCTION PROJECTS IN THE UNITED STATES:

1. BART - SAN FRANCISCO CALIF
2. MARTA - ATLANTA GEORGIA
3. MTA - BALTIMORE MARYLAND
4. METRO DADE COUNTY MIAMI FLA
5. TRI MET PORTLAND OREGON
6. PAT TRANSIT PITTSBURGH PENNA

THE RESULTS OF THE WRAP UP PROGRAMS HAVE RETURNED SIGNIFICANT SAVINGS TO THE OWNER-SPONSORS OF THE RESPECTIVE PROJECTS

EXAMPLES:

MTA PROJECT, BALTIMORE, MD - THE STATE OF MARYLAND HAS PAID A PREMIUM FROM 12/1/76 TO 7/1/81 OF \$21,000,000. FOR WORKERS COMPENSATION AND PRIMARY LIABILITY. THE RETURN DIVIDEND TO THE STATE FOR FAVORABLE LOSS EXPERIENCE FOR THE SAME PERIOD HAS BEEN IN EXCESS OF \$4,300,000.

THE DADE COUNTY PROJECT HAS GENERATED A PREMIUM LEVEL OF \$1,312,413 IN A POLICY PERIOD FROM 9/21/79 TO 9/24/81 AND THE DIVIDEND DUE TO FAVORABLE EXPERIENCE HAS BEEN \$564,444.

NOT ONLY HAVE THE OWNERS ACHIEVED THE ECONOMIC BENEFITS OF THE WRAP UP CONCEPT BUT THE PROGRAM HAS RESPONDED TO THE SOCIAL RESPONSIBILITY IN CLAIM ADMINISTRATION WITHIN THE URBAN ENVIRONMENT.

ONE OF THE MAJOR CONSIDERATIONS OF GOING WRAP UP IS SAFETY AND LOSS CONTROL CAN BE EASILY ADMINISTERED WHEN A SINGLE PHILOSOPHY IS ADOPTED TOWARD ACCIDENT PREVENTION ON MAJOR CONSTRUCTION PROJECTS.

J M MURPHY
EXECUTIVE VICE PRESIDENT
F S JAMES ARL VA
TELEX 899473

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DEPT ADM JNU

UTINTERNAT AUS

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/3080 2-7-83 UTINTERNAT AUS
INT MR. IRA PEER
RISK MANAGER
STATE OF ALASKA

/RE: WRAP-UP INSURANCE

BASED ON DETAILED RISK ANALYSIS OF THREE RAPID-TRANSIT PROJECTS
(BUFFALO, LOS ANGELES AND ORANGE COUNTY - TOTAL VALUE OVER \$3 BILLION)
I BELIEVE THE OPTION OF USING WRAP-UP INSURANCE IS ABSOLUTELY
NECESSARY.

SUPPORT:

PROJECT	\$ SAVING FROM WRAP-UP	SAVING AS / OF CONSTRUCTION
BUFFALO	6 MILLION	2.0
L.A.	63.5 MILLION	3.2
ORANGE COUNTY	5.3 MILLION	1.4

WORKERS' COMPENSATION SAVINGS ON AVERAGE ARE 43% OF TOTAL SAVINGS.

WORKERS COMPENSATION WAS 58% (ON AVERAGE) OF TOTAL INSURANCE COST
(EXCLUDING ENGINEER'S E & O).

THREE DETAILED REPORTS ENROUTE.

DAVID B. ASHLEY
ASSOCIATE PROFESSOR
THE UNIVERSITY OF TEXAS AT AUSTIN

910-874-1305//+
DEPT ADM JNU

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Tucson Electric Power Company

220 West Sixth Street, Post Office Box 711
Tucson Arizona 85702

February 7, 1983

Area Code 602
Telephone 622-6661

Mr. John Hancock
Risk Manager
State of Alaska
Teletype No. 907-465-2563

Re: Insurance Savings in Wrap-Up Programs

Dear Mr. Hancock:

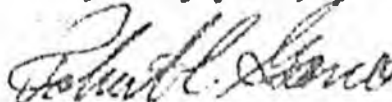
It is very difficult to quantify savings attributable to a wrap-up vs. a convention program, however, savings of 2% of total project cost are certainly within reason.

This Company presently has two wrap-ups. The first has been in place for about two years and the other just started. Attached is a summary of standard workers' compensation and general liability premiums of about \$13 million through 1987. What is not reflected is a "manual standard premium." Due to the mass purchasing power we were able to negotiate basic premium and loss conversion factors significantly lower than manual rates.

We have substantial additional savings in the cash flow. We pay 40% of standard premium monthly with a 90-day delay, about \$5 million for the project. The consolidated site safety program is currently holding losses to 10%. The estimated loss ratio for the project is about 20% which will mean about a \$1 million retro return or a net cost of \$4 million.

This Company's experience has demonstrated that the mass buyer power and the elimination of duplicate services in a wrap-up allows the owner to minimize its insurance costs in a major project.

Very truly yours,



Robert C. Garin
Risk Manager

RCG:fc
Enc.



McCARTHY & ASSOCIATES, INC.
RISK PREPAREDNESS CONSULTANTS
4108 Monet Avenue
Woodland Hills, California 91364

(213) 738-9973
(213) 348-6005

Daniel R. McCarthy
President

February 4, 1983 - 4:26 P.M.

John Hayward
(907) 465-2563

In response to your telecopy re: wrap-up insurance for construction projects.

My estimates of premium savings by use of a wrap-up are fair, if not exaggerated. Potential savings in Alaska are probably greater in view of the higher WC benefits and rates in Alaska. WC premium is probably 70% of wrap-up premium. If savings on construction cost and dividend savings of additional 1% are valid estimates.

One study for our R.P.D. indicates the following potential savings:

WC 51%
CR 12%
CD 26%

D. R. McCarthy

From: Don Heim

Re: Wrap-Up Savings

As part of Corroon & Black's proposal preparations for wrap-up programs, we are often asked to quantify the anticipated savings associated with the implementation of a wrap-up insurance program. Our experience has shown that savings have averaged 30-50% of the project's normal standard insurance premium. This converts to 2-3% of the project's construction costs.

This estimated savings is calculated by first determining the normal insurance cost associated with the project. For worker's compensation, the information needed is the current premium rates per \$100 of payroll and the percentage of the project's cost which is labor/payroll.

Our experience indicates that labor costs normally represent 30-50% of the project costs. With Alaska's workers compensation rates for construction workers ranging from \$10-20 per \$100 of payroll, workers compensation premiums alone can represent 4-7% of the project's costs.

Savings from a wrap-up come from three sources:

- (1) Reduced Administrative Expenses. Economics of scale reduce certain fixed costs of insurance, i.e., acquisition expense, claim handling, engineering, and auditing.
- (2) Loss Experience Credits. Wrap-ups are normally structured so that effective loss control will result in substantial premium savings. This retrospectively-rated premium approach allows the State rather than the contractors to receive premium reductions for good loss experience.
- (3) Cashflow Savings. By self-insuring or structuring the wrap-up in a cashflow sensitive manner, the State can retain use of the premium dollars otherwise held by the insurance carrier. Depending on the current interest rate and the payment schedule of losses in the wrap-up, cashflow savings can reduce the cost of the program by 15-25%.

John, I trust the above information clearly outlines the potential savings to be realized by the State from a wrap-up program. Please let me know if I can provide any additional assistance.

DKH:kb

cc: John McCadem
Lynn Burgess

VIA WUI+
DEPT ADM JNU

FEBRUARY 7, 1983

ATTN: IRA PEER
DEPUTY RISK MANAGER
STATE OF ALASKA

IN REPLY TO YOUR INQUIRY, THE FOLLOWING INFORMATION IS FOR YOUR USE:

GULF STATES UTILITIES ESTIMATED U.S. DLRS. 7.8 MILLION SAVINGS ON OWNER-CONTROLLED CONSTRUCTION PROGRAM. BASED ON PROJECTIONS ON WHAT INSURANCE PLACED BY CONTRACTORS COULD HAVE COST, GULF STATES ESTIMATED SAVINGS OF U.S. DLRS. 6 MILLION FROM 9/74 - 3/80 AND AN ADDITIONAL U.S. DLRS. 1.8 MILLION FROM 3/8 - 5/81. OWNER-CONTROLLED PROGRAM SAVINGS WERE FROM THREE MAJOR CONSTRUCTION PROJECTS IN LOUISIANA WORTH U.S. DLRS. 3 MILLION.

NEBRASKA PUBLIC POWER DISTRICT ESTIMATED U.S. DLRS. 2,249,465 FROM OWNER-CONTROLLED CONSTRUCTION PROGRAM. THIS FIGURE BROKEN DOWN:

U.S. DLRS. 121,312 PERFORMANCE BONDS
U.S. DLRS. 139,913 GENERAL LIABILITY
U.S. DLRS. 1,988,240 WORKERS' COMPENSATION

OWNER-CONTROLLED PROGRAM SAVINGS WERE FROM CONSTRUCTION OF GEROLD GENTLEMEN GENERATING STATION. NO IDEA OF VALUE OF PLANT, BUT PAYROLL WAS APPROXIMATELY U.S. DLRS. 76 MILLION.

IF I CAN BE OF FURTHER ASSISTANCE, PLEASE CALL.

REGARDS,
T. BRICIN

WYINTSF677035

+

DEPT ADM JNU
MMMMMV

EBASCO RISK MANAGEMENT CONSULTANTS, INC.

A Subsidiary of EBASCO SERVICES, INCORPORATED



Two World Trade Center New York, N.Y. 10048

F. F. Abdoo
Vice President

February 4, 1983

Mr. Ira Peer, Deputy Risk Manager
State of Alaska
Dept. of Administration
Division of Risk Management
Juneau, Alaska 99811

Dear Ira:

Ebasco has been involved in an advisory capacity with many wrap-up programs especially in the utility industry in the construction of large power plants. All have produced savings in premiums and large savings in administrative expenses.

There have also been non-utility wrap-ups which are probably more meaningful to you. The Port Authority of NY & NJ uses a wrap-up on all their large projects and have had dramatic savings.

The Lincoln Tunnel project would have normally cost about \$20,000,000 in premiums. The final wrap-up cost was closer to \$13,000,000. The Bus Terminal Project which is just being completed should save about 2-1/2 million dollars on an estimated standard premium of 8 million.

The World Trade Center itself was under a wrap-up and produced savings of close to \$10,000,000 on an estimated cost of \$25,000,000.

These savings do not reflect the addition savings that accrue from a more efficient and simpler administration.

Sincerely,

FPA:1b

EMASCO RISK MANAGEMENT CONSULTANTS, INC.

A Subsidiary of EMASCO SERVICES CORPORATION

Two World Trade Center, New York, N.Y. 10048

EMASCO

F. F. Abdoo
Vice President

February 7, 1983

Mr. John Hayward
Division of Risk Management
State of Alaska
Juneau, Alaska 99811

Dear Mr. Hayward:

We have reviewed your memo of February 4th concerning the savings that a wrap-up can provide especially in workers' compensation costs.

While we have not based the savings on construction costs in our calculations, we do feel that your estimates are conservative and that the minimum amount to be saved would be 2% of total construction cost.

Our experience has not been in Alaska but the benefits and premiums in Alaska are higher and therefore should generate larger savings.

Sincerely,

FFA:lb

CORROON HOU /

7 FEB 83

FOR JOHN HAYWOOD
RISK MANAGER
STATE OF ALASKA

ACKNOWLEDGING YOUR PHONE CALL AND INQUIRY ABOUT CONSTRUCTION PROJECT OWNER CONTROLLED OR WRAP-UP PROGRAMS. IN OUR INVESTIGATION OF THE LATEST PROJECT WE ARE INVOLVED IN, A 1.2 BILLION, 8 YEAR CONSTRUCTION PROJECT CONSISTING OF PHASE ONE OF FOUR PHASES, WE FIND:

- 1) WORKERS COMPENSATION PREMIUMS ARE APPROXIMATELY 61 PCT. OF TOTAL PREMIUMS PER OTHER SIMILAR PROJECTS IN ATLANTA 56 PCT., BALTIMORE 51 PCT., SAN FRANCISCO 47 PCT. AND WASHINGTON D.C. 66 PCT.
- 2) INSURANCE SAVINGS IN HOUSTON PROJECT SEEM TO BE APPROXIMATELY 1.9 PCT. OF THE TOTAL PROJECT COST. OTHER SIMILAR PROJECTS WERE STATED AS ATLANTA 2.8 PCT., BALTIMORE 3.75 PCT., SAN FRANCISCO 1.6 PCT. AND WASHINGTON D.C. 1.0 PCT.

3) OVERALL ESTIMATED CONSTRUCTION COSTS AND TIME PERIODS WERE:

ATLANTA	750 MILLION	7 YEARS
BALTIMORE	506 MILLION	5 YEARS
SAN FRANCISCO	990 MILLION	10 YEARS
WASHINGTON	4.76 BILLION	8 YEARS
HOUSTON	1.2 BILLION	8 YEARS

4) INSURANCE SAVINGS ONLY SMALL PART OF REASON FOR WRAP-UP. WE CONSIDER FOLLOWING EQUALLY IMPORTANT.

AVAILABILITY OF HIGH LIMITS AND CONSISTENT FORMS.
PROFESSIONAL LIABILITY INSURANCE FIRST AND THIRD PARTY.
EFFECTIVE SAFETY PROGRAM TO REDUCE ACCIDENTS.
ELIMINATES DUPLICATION OF INSURANCE COSTS.
AVOIDS INTERCOMPANY LITIGATION BETWEEN INSURANCE COMPANIES.

YOUR 2 PCT. WOULD SEEM TO TRACK.

C. M. BURTON
CHAIRMAN
CORROON AND BLACK, HOUSTON

CC MR. JOHN DREW
PRESIDENT
CORROON AND BLACK HOUSTON

MR. T. W. MOHLE, JR.
EXECUTIVE VICE PRESIDENT
CORROON AND BLACK HOUSTON

DEPT ADM JNU

CORROON HOU

Warren, McVeigh & Griffin, Inc.
Risk Management Consultants

February 7, 1983

Mr. John Haywood
Director of Risk Management
State of Alaska
Department of Administration
Division of Risk Management
Pouch "C"
Juneau, Alaska 99811

OWNER-CONTROLLED WRAP-UP INSURANCE PROGRAM

Dear Mr. Haywood:

This letter is in response to your Telex of February 4, 1982.

In our opinion your wrap-up insurance cost savings of 1% of construction costs plus 1% in dividends is conservative. The majority of available literature on the subject quote a range of 2%-4% total cost savings.

Based on our considerable past experience and additional research, we can estimate the insurance costs and savings of the wrap-up vs. conventional contractor-supplied insurance. The various components of the insurance premium consist of the following percentages (approximate) of total insurance cost:

<u>Coverage</u>	<u>% of Total</u>
Workers' Compensation	70%
Comprehensive General Liability	20%
Builders' Risk	<u>10%</u>
	100%

The following reductions in premium can be expected utilizing a wrap-up program:

Workers' Compensation

<u>Factor</u>	<u>Change</u>
Elimination of the contractor mark-up insurance premiums	- 8%
Reduction in insurance company expense loading	- 6%
Reduction in loss ratio via an improved safety program	-15%
Total Change	-27%

Comprehensive General Liability

<u>Factor</u>	<u>Change</u>
Elimination of the contractor mark-up on insurance premiums	- 7%
Premium savings arising from the volume purchase	-15%
Differential effects of market conditions on premiums by combining with workers' compensation	-10%
Potential effect of safety program on premiums and absorbed losses	-12%
Reduction in insurance company expense	-10%
Total Change	-54%

Builders' Risk

<u>Factor</u>	<u>Change</u>
Elimination of the contractor mark-up on insurance premiums	- 5%
Premium savings arising from the volume purchase	-10%
Differential effects of market conditions on premiums by combining with workers' compensation and liability	- 6%
Reduction in insurance company expenses	-15%
Total Change	-36%

February 7, 1933

Total Package

	<u>% of Total</u>	<u>% Change</u>	<u>% Change of Total</u>
Workers' Compensation	70%	-27%	-18.9%
Comprehensive General Liability	20%	-54%	-10.8%
Builders' Risk	10%	-38%	- 3.6%
Total Wrap-Up Savings			-33.3%

Based on the assumption that a conventional insurance program cost represents 6% of total construction costs we can quantify wrap-up program savings on a \$100 million project as follows:

Conventional Program

<u>Coverage</u>	<u>% of Total</u>	<u>Premium</u>
Workers' Compensation	70%	\$4,200,000
Comprehensive General Liability	20%	1,200,000
Builders' Risk	10%	600,000
	100%	\$6,000,000

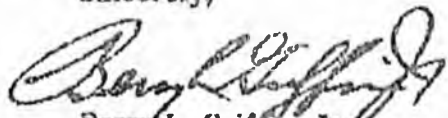
Wrap-Up Program

<u>Coverage</u>	<u>Conventional Program Premium</u>	<u>Wrap-up Savings (%)</u>	<u>Dollar Savings</u>
Workers' Compensation	\$4,200,000	27.0%	\$1,134,000
Comprehensive General Liability	1,200,000	54.0%	648,000
Builders' Risk	600,000	36.0%	216,000
	\$6,000,000	33.3%	\$1,998,000

The \$1.998 million savings outlined above compares favorably with the 2% savings you have projected. However, it does not include cash-flow advantages or investment income, which will increase the wrap-up savings substantially.

Please call me if you have any questions or if we can be of further service.

Sincerely,


Berry L. Griffin, Jr.
Senior Consultant

Arizona Public Service Company

P.O. BOX 24024 • PHOENIX, ARIZONA 85026

February 7, 1983

T E L E C O P Y

Mr. John Haywood
Risk Manager
State of Alaska
Juneau Alaska

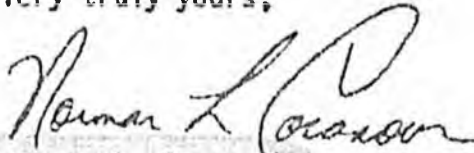
Dear Mr. Haywood:

RE OWNER CONTROLLED INSURANCE PROGRAMS

Arizona Public Service Company has and is using Owner Controlled Insurance Programs (OCP) on several major projects over the last ten years. The use of wrap-up programs have been exceedingly successful and cost beneficial to APS and our customers in reducing the capital cost of the project.

An OCP requires careful administration and auditing, as well as the control of the overall safety and loss prevention effort for a successful construction project. A program properly designed and addressed in the contractual agreements will return 30 to 50 percent of the insurance premium to the project owner. That return in addition to the cash flow benefits available under such a unified insurance approach makes an OCP a very viable option on all major construction projects.

Very truly yours,



Norman L. Cocanour
Manager, Risk
Management Services

/dd

cc: J. Mullen

DEPT ADM JNU
4-0467155038 02/07/83
ICS IPMMTZZ CSP
2158361400 TDMT PHILADELPHIA PA 176 02-07 0530P EST
PMS STATE OF ALASKA, TLX 09946308
ATTN IRA J PEER
DEPUTY RISK MANAGER
JUNEAU AK

INSURANCE PREMIUMS AND RELATED MANAGEMENT SERVICES TYPICALLY RUN 8 TO 10 PERCENT OF TOTAL CONSTRUCTION PROJECT COSTS IF CONVENTIONAL PROGRAMS ARE USED. WRAP UP COSTS ARE IN FOUR TO SIX PERCENT RANGE ON THESE PROJECTS. WORKER COMPENSATION USUALLY MAKES UP 50 TO 60 PERCENT OF TOTAL PROGRAM COST. ASSUMPTION THAT NET SAVINGS BECAUSE OF WRAP UP USE WILL EQUAL TWO PERCENT OF OVERALL PROJECT SEEMS TO BE VERY CONSERVATIVE. BALTIMORE MTA SAVING IS 6 PERCENT.

PROPOSED ALASKIAN HYDRO-ELECTRIC PROJECTS INVOLVING ROCK TUNNELING, UNDERWATER WORK, AND COMPRESSED AIR CONSTRUCTION CONDITIONS WILL BE RATED SAME AS TRANSIT PROJECTS BY INSURANCE COMPANIES. ARGUMENT THAT THIS IS DIFFERENT FROM TRANSIT IS NOT ACCEPTED BY INSURANCE UNDERWRITERS. THEY DON'T CARE WHETHER TUNNEL IS TO CARRY WATER, POWERLINES, SEWERAGE, AUTOS OR TRANSIT CARS. IT IS THE SAME SET OF CONSTRUCTION HAZARDS FOR ALL.

HERE ARE SPECIFICS ON FOUR RECENT MAJOR PUBLIC CONSTRUCTION PROJECTS, ALL INVOLVING HEAVY UNDERGROUND WORK.

PROJECT	CONVENT'L	WRAP UP	SAVINGS O/O
SAN FRANCISCO	46.3	29.8	35.6
WASHINGTON	98.4	62.2	60.0
ATLANTA	61.3	39.9	34.9
BALTIMORE	46.0	27.5	40.2

(\$MILLIONS)

JIM BARRETT
CRESHEIM
PHILADELPHIA

1751 EST

IPMAFUB AHG

#305P

DEPT ADM JNU

224 South 108th Avenue
Post Office Box 3330
Omaha, Nebraska 68103
Telephone (402) 691-2100



Northern Border Pipeline Company

New Natural Gas for America

February 10, 1983

Mr. Ira Peer
Deputy Director
Division of Risk Management
Pouch "C" State Office Building
Juno, Alaska 99811

Dear Ira:

We are telecopying you the information you requested on April 9, 1983. Hopefully, it will provide you with enough information that will be helpful in support of the Owner Controlled Insurance concept.

I found our conversation to be extremely interesting, and if I can provide any further assistance, please let me know.

Sincerely,

NORTHERN BORDER PIPELINE COMPANY

Ira
Dick C. E. Davis, Manager
General Services/Insurance Department

bkp
attachment

Northern Border Pipeline Company
Owner Controlled Insurance Program (OCIP)
Fact Sheet

The Northern Border Pipeline is the eastern U. S. leg of the Alaska Natural Gas Transportation System. The 42-inch diameter pipeline was recently completed, extending across five (5) north central states -- from Port of Morgan, Montana to Ventura, Iowa. One of the largest pipeline construction projects in U. S. history is now in operation.

The insurance coverage on the 823-mile, \$1.3 billion Northern Border Pipeline included over 5,000 employees, 40 contractors and subcontractors, nine different construction spreads, three major river crossings, and all the related support facilities.

Northern Plains is the managing partner for Northern Border. The Northern Plains Insurance Department has been responsible for developing and managing the OCIP for the Northern Border construction project. Northern Plains has assembled an insurance staff where present and past experience has been involved in the proposal development, broker services, and/or management services for five major OCIPs including power plants, pipeline, and building construction. All projects have been financially successful to date and represents over \$3.5 billion in total project costs. Northern Border results are present below:

- \$1.3 billion -- (total project cost)

Pre-construction, construction, and procurement costs are included in the total project cost. Specific construction-related costs are not yet available. However, it is estimated that construction-related costs are approximately 25% of the total.

- \$0.4 million -- (contractor's insurance cost)

Northern Border provided contract language that enabled cost analysis prior to the awarding of contracts.

- \$5.4 million -- (Northern Border initial cost)

North Dakota has a state workers' compensation fund which is included in this initial cost. A state fund is a guaranteed insurance cost that does not allow the owner to participate in the savings from a safety program.

- \$3.8 million -- (Northern Border OCIP cost)

This dollar figure excludes North Dakota premium and represents a maximum amount that could be returned to the owner for a good safety program.

- \$1.4 million -- (Northern Border safety returns)

Northern Border's pipeline construction had an approximate 50% reduction of the national average for lost workday cases. The pipeline construction (including water and sewer lines) average incidence rate of lost workday cases (frequency) according to the National Safety Council statistics in 1981 was 5.61 while Northern Border's is currently 2.93.

The Northern Border OCIP basically provides three types of insurance: Workers' Compensation, which provides coverage for medical, temporary and/or permanent disability and death benefits to survivors; Comprehensive General Liability (CGL), which is protection against third party claims for bodily injury and property damage; and Longshoreman's Insurance, which is protection for employees that work on navigable waters that are subject to the Longshoreman's Act (a federal act which provides for worker's benefits). The Longshoreman's Insurance is needed during river crossing construction.

COMMENTS FROM THE OWNERS AND THEIR INSURANCE COMPANIES

RE: ALYESKA PIPELINE WRAP UP



THE STANDARD OIL COMPANY

MIDLAND BUILDING, CLEVELAND, OHIO 44115

PLEASE TELECOPY THE FOLLOWING

TELEPHONE: (216) 575-4141

TELECOPY NUMBER 907-465-2563

February 9, 1983

Mr. Ira Peer
Deputy Risk Manager
State of Alaska
Juneau, Alaska

Dear Mr. Peer:

This is in response to your request that I submit my comments and opinion concerning the use of an Owner Controlled (wrap up) Insurance Program for the construction phase of the Trans Alaska Pipeline System (TAPS).

As explained to you, I am firmly convinced that the decision to implement an Owner Controlled Insurance Program (O.C.I.P.) for the construction phase of the TAPS project was a correct one. The O.C.I.P. involved three types of risks - Workers' Compensation, General Liability, and Builders Risk. My comments here are directed to the Workers' Compensation program. The decision to control workers' compensation costs through an O.C.I.P. was a sound one for the following reasons:

1. All construction contracts were on a "cost plus" basis. If an O.C.I.P. had not been used the thousands of contractors working on the project would have had to arrange for their own workers' compensation coverage and the TAPS owners through Alyeska would have had to separately monitor and audit each contractors' coverage and claims. This would have created a completely unmanageable situation.
2. It is extremely doubtful that all of the individual contractors working on the project would have been able to arrange workers' compensation insurance because of the high benefits in Alaska and the unwillingness of insurers to underwrite guaranteed cost coverage at the then existing Alaska manual rates for a project the size of the TAPS project.
3. Although the workers' compensation claims costs generated from the construction phase were quite high, I am satisfied that these costs would have been dramatically higher if the contractors had arranged their own insurance (assuming that they would have been able to do so). The retro plan employed in the O.C.I.P. had a very low basic premium factor to cover the insurer's expenses and small profit. No individual insurer for a contractor would have been willing to offer a comparable plan.

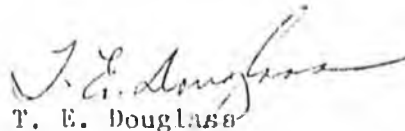
THE STANDARD OIL COMPANY

Mr. Ira Peer
February 9, 1983
Page Two

4. The control of the contractor employees' claims by Alyeska and the single insurer was also of critical importance. Had multiple insurers been involved in the claims handling, there would have been no continuity in the claims handling procedures, and the ultimate costs would have been substantially higher.
5. During the course of construction of TAPS, Alyeska had a number of common law suits filed against it by injured contractor's employees. The fact that Alyeska was controlling both workers' compensation and the first \$1 million of liability risks for all contractors under an O.C.I.P. was significant in minimizing Alyeska's liability claims costs.

In summary, the use of an Owner Controlled Insurance Program for any major construction project is essential in order to minimize insurance and claims costs, and maximize control of claims and losses.

Very truly yours,



T. E. Douglas
Director, Insurance & Risk Management

TED:ams
1815I

*
DEPT ADM JNU

ARCO PLAZA LSA

MSG NBR 017

02-10-83

1210 HRS

MR. IRA PEER
DEPUTY INSURANCE MANAGER
STATE OF ALASKA
ANCHORAGE, ALASKA

CC: DAVID F. HARPOUR
GOVERNMENT RELATIONS
ATLANTIC RICHFIELD COMPANY
ANCHORAGE, ALASKA (ANQ-1003)

IN CONFIRMATION OF YESTERDAY'S TELEPHONE CONVERSATION, I WISH TO AFFIRM THAT ATLANTIC RICHFIELD COMPANY WAS VERY PLEASED WITH THE OWNER PROVIDED INSURANCE PROGRAM COVERING THE CONSTRUCTION OF TRANS ALASKA PIPELINE SYSTEM. SOME OF THE BUSINESS'S BENEFITS ARE AS FOLLOWS:

1. PRIOR TO CONSTRUCTION THERE WERE MANY UNKNOWNNS, THEREFORE LIMITED MARKET CAPACITY.
2. WE WERE ABLE TO CONTROL INSURANCE COST. IF EACH CONTRACTOR PROVIDED HIS OWN INSURANCE, WE WOULD HAVE BEEN SUBJECT TO RATE DEBIT MODIFIERS EXISTING AT THE TIME. WE ALSO HAD THE BENEFIT OF BULK PURCHASING.
3. WE WERE ABLE TO STANDARDIZE THE AMOUNT OF INSURANCE IN FORCE, OTHERWISE IT WOULD HAVE BEEN UNWIELDY.
4. WE ELIMINATED CROSS LITIGATION AMONG CONTRACTORS.
5. WE WERE ABLE TO GET INVOLVED IN THE SAFETY PROGRAMS OF THE

09946 308+
DEPT ADM JNU

FEBRUARY 9, 1983

TELEX TO: IRA PEER
RISK MANAGEMENT DEPT.
STATE OF ALASKA
JUNEAU, ALASKA

RETELECON ON WRAP-UPS, THE INA GROUP OF COMPANIES FEELS STRONGLY THAT WRAP-UPS ARE A DESIRABLE CASUALTY INSURANCE OPTION ON MAJOR MULTI-CONTRACTOR PROJECTS. TO SUBSTANTIATE THAT POSITION WE CALL ATTENTION TO THE ALEYESKA PROJECT WRAP-UP WHICH WAS A VERY EFFECTIVE AND EFFICIENT MEANS OF INSURING THAT EXTREMELY COMPLICATED OPERATION. I AM SURE THE JOINT OWNERS WOULD SUPPORT THAT POSITION.

JOHN C. MORRISON
INA

INACORPNY NYK
+
DEPT ADM JNU

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DEPT ADM JNU

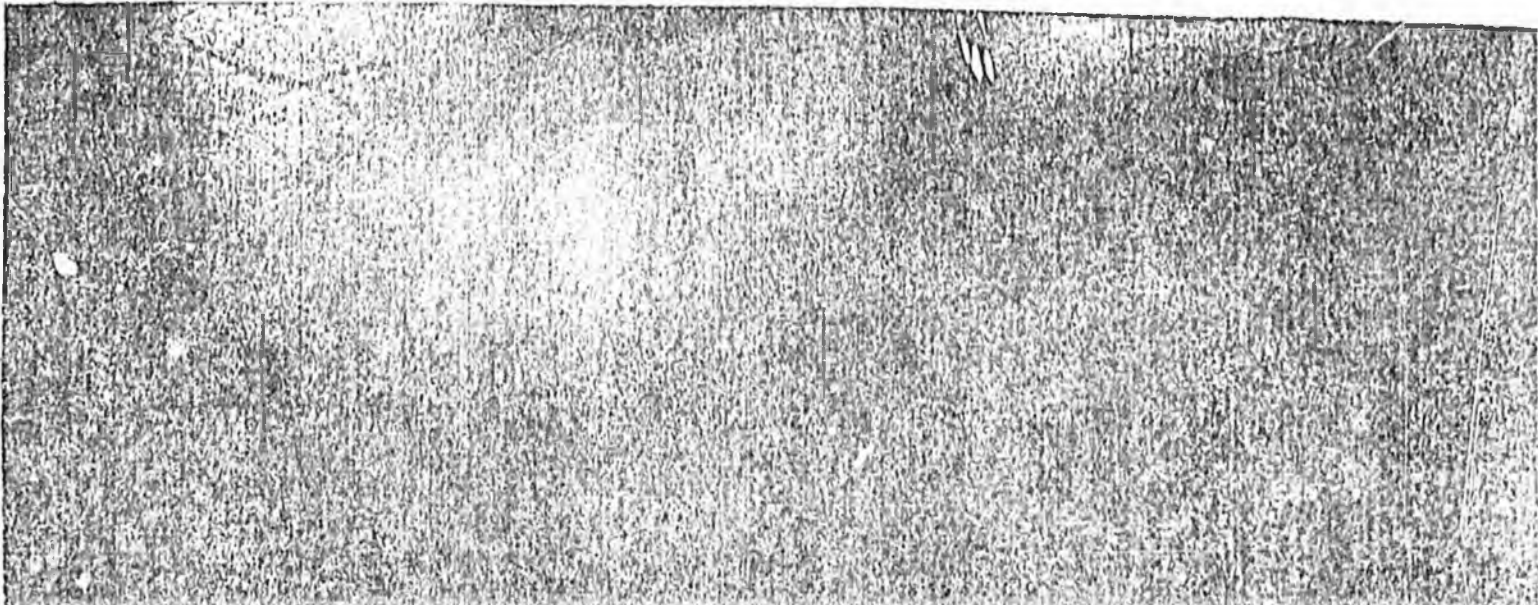
PAPA MIKE SEA
2-8-83 10-50

ATTN JOHN HAYWOOD
FROM MEMORY THERE WERE IN EXCESS OF 17000 WC CLAIMS OPENED DURING
PROJECT LIFE. AS OF DEC. 79 ONLY APPROX 600 WERE STILL OPEN.
THIS COULD NOT HAVE BEEN ACCOMPLISHED WITH MULTIPLE EMPLOYER
CONDITIONS. ALSO THE PROJECT INCLUDED BI/PD AS WELL AS WC AND
AUTO. IT WOULD HAVE BEEN AN INDUSTRY NIGHTMARE ON CONVENTIONAL
CONCEPT.

JOHN H. HALE
PACIFIC MARINE INSURANCE COMPANY

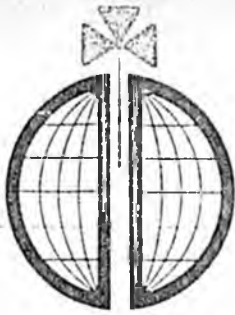
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PAPA MIKE SEA
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JH

COMPILATION OF
CONTRACTOR AND SAFETY ENGINEER
STATEMENTS ON WRAP-UP ADVANTAGES



CONTRACTORS • ENGINEERS

HARRISON WESTERN CORPORATION

1208 QUAIL STREET • DENVER, COLORADO 80215 • TELEPHONE (303) 234-0273 • TELEX 45887

April 6, 1982

Mr. John Haywood
Risk Manager - Division of
Risk Management
State of Alaska
Pouch C
Juneau, Alaska 99811

Re: Tyee Lake Project - Owner Wrap-Up
Insurance Program

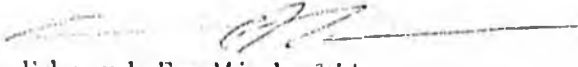
Dear John:

I just wanted to write you to let you know that we consider the transition to the Wrap-up Insurance Program on the Tyee Lake Project to have been accomplished in a very professional manner. As you are aware, I expressed some concern at making this transition at the time it was suggested. My concerns with respect to the adequacy of coverages and other potential difficulties proved to be unfounded which I attribute to the effectiveness of your office.

We look forward to working with you on this project in the future and are certain that your decision to provide the Wrap-up Insurance on this project will prove financially rewarding for the State of Alaska.

Yours very truly,

HARRISON WESTERN CORPORATION


Edward F. Michalik
Vice President

EFM:cs



Washington Metropolitan Area Transit Authority

600 Fifth Street, N.W., Washington, D.C. 20001
(202) 637-1234



August 28, 1981

Mr. John Haywood
Division of Risk Management
Department of Administration
State of Alaska
Pouch C
Juneau, AK 99811

Re: Safety Awareness Program

Dear Mr. Haywood:

I am enclosing copies of our "Safety Awareness Program" and supportive information as discussed in our telephone conversation of August 26, 1981.

Our insurance coverage is a loss responsive wrap-up policy and we are able to confirm the contractors reporting documentation by review of our loss runs at the close of the contract.

For the program to be effective a base incidence rate must be established for each type of construction. Thru July our contractors have worked a total of 83,329,296 man - hours, we break down the man - hours to type of construction and accident experience, then establish an incidence rate for each new contract.

To date our program has assisted with a sizeable reduction in our lost workday cases and insurance costs.

If I can be of further assistance, please contact me.

Sincerely,

Donald M. Lahr
Safety Engineer

Office of Design and Construction

COMMENTS BY THOMAS J. LASKOWSKI

In coordinated insurance programs (wrap-ups) a safety program attempts to establish a consistent, system-wide approach. Usually the consolidation of premium dollars in a large program provides the needed budget for a broad, effective program.

My experience with this type of program extends back approximately 30 years on many large, multi-million dollar projects, i.e., New York State Power Authority Construction Program, New York; The Bay Area Transit System, California; The Oroville Dam, California; and the ARMCO Republic Steel, iron ore project in Minnesota. Some of these projects were owner-sponsored; others were prime contractor-sponsored. Each project was successful from a safety standpoint. Most finished ahead of schedule and, for the most part, labor relations were above par with no work stoppage due to safety-oriented problems.

Thomas J. Laskowski, Safety Consultant

JH/je
5/0207-02/RM1

'Wrap-Up' Insurance Offers Advantages for Construction

During the past 20 years, most construction insurance has been purchased by the owner, to cover the owner, the general contractor, and all subcontractors. This insurance plan assumes that the owner, more than the various contractors and subcontractors, has the greatest interest in the costs of insurance premiums, the orderly processing of claims, safe working conditions and accident prevention, and public relations as affected by claims and safety on the project.

Under this plan, the general contractor and all subcontractors are required to bid without requirements for purchasing certain specific insurance coverages. However, the owner's safety requirements must be spelled out in the bidding documents so that safety compliance and safety management can be influenced. By bringing to a single insurance company all the workers' compensation and liability premiums on a particular project, the purchasing power of the owner is greatly enhanced.

When separate insurance policies are underwritten by different insurance companies, the total premium for higher limits of liability coverage is fragmented. Where large limits are required, combining premiums with one insurance company achieves substantial reduction in premium costs.

An additional advantage is the greater safety services which can be obtained from a single insurance company handling all insurance for the

entire project. When the entire project is in the hands of one insurance company, a regular claim and investigation procedure can be inaugurated at the outset and followed throughout the job, with one or two people becoming familiar with the work and the claim assignments.

The same thing is true of safety engineering. In many instances the premium generated by some of the smaller subcontractors will not be sufficient to promote much engineering interest on the part of each insurance company. Where the insurances are combined with one company, the owner's insurance representative can make certain that there is an orderly safety program that has the owner's unqualified support, and that is applicable to all work at the site. Under these circumstances, one safety and loss engineer would be assigned to the project and would be required to give it as much time as necessary.

The owner's vital interest in the public relations aspects of job safety is perhaps best dramatized by the collapse of one of the concrete floors at New York's Coliseum when it was under construction several years ago.

Everyone remembers this catastrophe at the Coliseum, yet hardly anyone can remember the name of the contractors.

The insurance and safety program should be effected by the owner, in cooperation with the general contractor, for the benefit of the owner and all personnel engaged in the work.

Although the insurance coverage premiums under a wrap-up program are paid directly by the owner, this in no way relieves a contractor from accident experience responsibility. The contractor's accident experience on the project will still be reflected in his Experience Modification Factor (EMF) for the state in which the project takes place. The EMF will be used to determine his worker's compensation insurance premiums for that state on future projects for a period of of three years. His liability accident experience is also reviewed by his own insurance company in determining future premium rates. It is therefore still in the contractor's best interests to effectively contribute to and cooperate with the project's safety program efforts.

—Stephen J. Perren
Johnson and Higgins
New York, N.Y.

Industrial Division Sets Meetings

The Industrial Division of the National Safety Council has scheduled two meetings in Chicago for the balance of 1982. The Division will meet on May 11-13 at the Palmer House Hotel, and on October 16-18 at the Conrad Hilton Hotel. The 13 standing committees will meet at these times.

Members of the Industrial Division will receive further information by mail. ■

Safety Cost Problem: What's Your Answer?

The president of your company, ABC Construction Co., returns your safety statistics and asks, "How do our injury costs compare with XYZ Construction Co. and with the OSHA industrial average?" What is your answer?

Here are your data.

	Rates per 200,000 Work Hours		
	ABC	XYZ	U.S. Average
Fatality Cases	.03	.01	.008
Lost Workdays (Away) Cases	6.5	.4	3.7
Lost Workdays (Restricted) Cases	1	1.0	3
More Than First Aid Cases	9.1	5.0	4.7
Total Recordable Cases	15.7	6.4	8.7
Number of Lost Workdays (Away)	110	15	56
Number of Lost Workdays (Restricted)	5	40	9

Your answers should cover the costs of injuries as a percentage of the U.S. average for both ABC Co. and XYZ Co., assuming the U.S. average is 100%. You should also indicate the total cost of injuries, expressed as a dollar figure per 200,000 work hours.

Send your answers to the newsletter editor at the address in the box on page 2. We will publish your answers and credit the source as you wish.

—George Youskr,
Newsletter Editor



MILLION DOLLAR CHECK—Leland J. Hoagland, insurance director for Transit Insurance Administrators; William M. Reedy, vice president of BART; and Thomas J. Laskowski, safety and claims supervisor for TIA assemble (left to right) for the presentation of a \$1,302,420 check presented recently to BART by Fireman's Fund American Insurance Companies and Argonaut Insurance Company. Holding the check are Lynn Broucarel, left, of Fireman's Fund, and Carol Burket of BART. Transit Insurance Administrators manages BART's insurance and safety programs.

5/6

WRAP-UP GENERAL -
ADVANTAGES &
DISADVANTAGES

INSURANCE PROGRAM QUESTIONS AND ANSWERS

QUESTION: Why did the State provide insurance for both the State and the contractors on the Tyee Lake Hydroelectric Project?

ANSWER: The main reason was the savings to the State in a period of time in which decreased revenue projections and increased costs of running government are becoming a greater problem. The Tyee Insurance Program cost 4.25 percent of construction costs and if the losses are managed properly will return a portion of that to the State after the completion of construction.

QUESTION: Who has the greatest interest in the project?

ANSWER: The owner rather than the various contractors has the greatest interest in costs; safe working conditions; claims processing; certainty and uniformity of insurance protection to cover inherent hazards of the project; and adverse public relations from poor claims and safety services.

QUESTION: Are these owner controlled programs legal?

ANSWER: Insurance owner controlled programs are approved in 46 states, including D.C., and only four states make a distinction between public and private owners. There have been no successful legal challenges to an owner providing insurance for both the owner and contractor however there have been some states that have passed prohibitive legislation such as the State of Washington. Some of the problems of the Washington Public Power Supply System in contracting within budgets could be traced to the inability to write an owner controlled program.

QUESTION: If the State were prohibited from writing insurance to protect both itself and the contractors on these very large projects who would benefit?

ANSWER: There would be absolutely no benefit to the State as its costs would increase by two to three percent over that needed to properly protect the project. Most of the Alaska agents and brokers and members of the Alaska General Contractors would also derive no benefit since the large contractor or joint venture would provide their own contractor controlled insurance. The only clear benefits would be to the Board of Directors of the six or eight large outside construction companies who would be the general contractors and also provide the insurance.

QUESTION: Doesn't the owner controlled program expose the State to more liabilities than if the contractor carried insurance?

ANSWER: No. The projects themselves create the liability exposure. The State and Alaska Power Authority are best protected by providing a Risk Management program which guarantees that the insurance coverage is sufficient to protect the owner and contractors.

QUESTION: How does the State save money?

ANSWER:

1. Lower insurance premiums
2. Reduced legal expenses
3. Earnings on reserve funds
4. Reduced accidents through central safety programs
5. Reduced cost of change orders

QUESTION: Isn't it unusual for the owner to provide insurance to protect the owner and the contractor?

ANSWER: No. Since World War II most of the large (over 50 million) construction projects have been handled by owner controlled programs.

QUESTION: Why do owner controlled programs give better protection?

ANSWER: One insurance program provides blanket coverage for losses whether caused by the architect, the engineer, the contractor, or the owner's representative. There is no requirement to sue the other party to obtain insurance coverage.

QUESTION: Why don't you have the contractor provide insurance coverage?

ANSWER: The owner cannot guarantee that the proper coverage is maintained with financially responsible insurers during the construction period. If a loss occurs 2, 3, or 5 years after construction, the owner has no way to make sure contractor completed operations coverage is in place. To make things more difficult, neither the contractor or his insurance company has any incentive to resolve the loss.

QUESTION: Won't the Alaska contractor be penalized for having a good safety record?

ANSWER: No. The centralized safety program should reduce lost-time accidents which would enhance the contractor's experience modification for all jobs.

QUESTION: Doesn't this program discriminate against the Alaska contractor?

ANSWER: Not at all. Many smaller Alaska contractors simply could not obtain the broad coverage and high limits required. This program permits them to participate.

QUESTION: Have there been any studies of the benefits of owner controlled insurance and why it works?

ANSWER: The Federal Government in a report for the U.S. Department of Transportation in June, 1979 studied four major transit authority owner controlled programs. They referred to the programs as coordinated insurance programs or CIP. The following statements are from that report:

*Projects larger than the fifty to sixty million dollar range should be handled through CIP because of the human and financial cost savings.

*In considering savings with one CIP about 60 percent was due to purchasing power and 40 percent to eliminating tiers of acquisition expense (commissions) and administrative costs.

*Owners interviewed noted that with conventional insurance, contractors put the estimated premium into their bid price and then mark it up 20 percent.

*In comparing claims handling the quick comparative answer on conventional versus CIP programs is that CIP's are better.

*The main distinction from conventional insurance is cost. Dramatic cost savings have been achieved and are anticipated by use of CIP.

*The numbers tell a very convincing story. For large transportation construction projects, coordinated insurance programs are the way to go.

Wrapping Up Big Construction Projects*

Wrap-up insurance, an idea that first was popular in the late 1940s and early 1950s, is again proving attractive to owners of some of today's most imposing construction ventures.

Hospitals, synfuel projects, shopping malls, office towers, industrial facilities—even gambling casinos—have all found "wrap-up" ideal for their purposes.

Wrap-up insurance combines key units of construction coverage, such as workers' compensation, general liability and builder's risk, into a single package placed and financed by the project owner. The general contractor and subcontractors are thus relieved of the necessity to buy required insurances for that particular project.

When first developed, wrap-up insurance appealed to owners because they realized they were paying for contractors' coverages in any case (since these costs were part of the construction companies' bids). The idea of marketing a coordinated program to a single underwriter made practical sense.

Because of the larger dollars involved, the owners obtained reduced premium rates and better coverages and the underwriter, who got more dollars to work with, could afford to give the owner more services.

Wrap-up insurance hit a lull in the early 1970s when construction activity declined and underwriters became indifferent to the coverage due to economic conditions.

In 1974, however, many states passed enabling legislation that revitalized the wrap-up concept. These laws allowed the combination of several construction premiums to be viewed as a group premium for discount and retrospective rating purposes. Prior to this, each premium had been viewed individually.

Ensuing activity in office construction, trade centers and other large projects caused "wrap-up" to return in style. Owners of those projects valued at a construction cost of \$25 million (minimum) in suburban areas, and \$50 million (minimum) in urban centers were the first buyers.

The owners achieve five key benefits:

- *A coordinated loss control and claims handling program that applies to all work at the site.*

Each party in the construction project is thoroughly familiarized with the loss control program and agrees to support it. With the owner's

unqualified support, the single, well-structured safety program usually reduces the ultimate project cost. The coordinated claims program allows a uniform approach to claims handling. This, in turn, reduces intercompany insurance disputes and costly subrogation, and results in rapid and satisfactory claim settlements. Uniformity and reduced claims costs also contribute to sound relationships among all parties to the project.

- *Concurrent and uniform coverage for the owner, contractor and all subcontractors.* The greatly reduced administrative requirements of the insurance program also cuts costs.
- *Improved public image.* The owner, who will be identified with the site for many years, is seen by the public as the one responsible for prevention of serious injury or damages. The contractor or subcontractor is less visible. The combination of an effective safety program and a responsive claims procedure that yields fair and equitable settlements avoids adverse publicity. Centralized communication with media by one insurance company in case of an incident avoids the problem of several underwriters seeking to lay financial responsibility on each other.
- *Contractor involvement.* Since wrap-up makes insurance available to all approved contractors, those who might not otherwise be able to secure insurance are covered automatically. This helps promote the use of minority contractors on major projects.
- *Reduced cost.* Mass buying from one underwriter gives the owner leverage with insurance companies. A combination of safety, claims control and mass buying often produces significantly lower costs.

Keys to the cost efficiency of wrap-up insurance are both the safety program and the rating plan developed by the insurance broker and accepted by the underwriter. Because there is a substantial premium to be placed with one underwriter, the broker can design a variety of premium funding mechanisms.

Wrap-up insurance is a time-tested construction coverage concept. It is having a well-deserved revival, not only for its convenience and efficiencies, but also for its broader advantages—building protection for human life and keeping the owner's name at its brightest.

*This article appeared in the Spring 1982 edition of *Private Opinion*, published quarterly by Johnson & Higgins, and is reprinted with its permission.

EXTRACTS FROM 1972 ADDRESS TO ATLANTA TRANSIT AUTHORITY BOARD
PURSUANT TO DECISION TO WRAP-UP PROJECT

ADVANTAGES OF WRAP-UP INSURANCE

Wrap-up insurance produces lesser premium costs than traditional insurance. Savings of 50% or more can be realized. There are many reasons why wrap-up produces lower cost. Let me enumerate a few, and not necessarily in the order of importance.

1. Fewer accidents and safer place to work from one central program and one insurance company.
2. More realistic claims awards from prompt investigation and payment.
3. Elimination of coverage disputes which reduces litigation between parties.
4. Broader coverage and uniform protection of all parties.
5. Catastrophe limits to protect both owner and contractor.
6. Lower insurance costs from pooling of buying power.
7. Reduced administrative costs from one negotiated fee for central program.
8. Financial stability of insurers by owner selection.

DISADVANTAGES OF WRAP-UP INSURANCE

When discussing disadvantages, in fact you are talking about objections to wrap-up. Over the years, objections have been voiced primarily by the construction and the insurance industry.

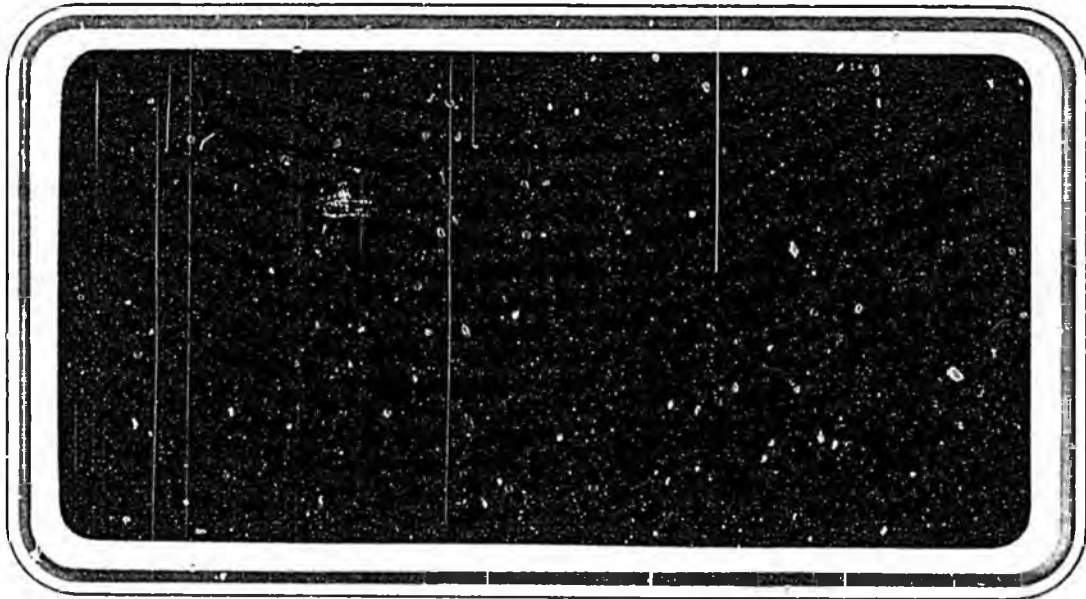
1. Insurance brokers object because they are deprived of some of their income from their clients who are involved in wrap-up.
2. The contractor objects principally because dividends and refunds on the insurance redound to the benefit of the owner.
3. A contractor will contend that he has a lesser interest in safety; exactly the opposite has proven to be true. A soundly-conceived safety program under a wrap-up plan will minimize the number and severity of accidents.
4. The contractor will object because he will lose the benefit of his good experience. In fact, a safe job should improve his workmens' compensation experience, which would apply to other work as well.

5. The contractor will contend that he loses his right to select his own insurer. This is not peculiar to wrap-ups. Owners usually specify the forms and amount of insurance and reserve the right to approve the insurance company.

Leland Hoagland, Insurance Director
BART

JH/je
5/0207-01/RM1

Southern California Rapid Transit District **METRO RAIL PROJECT**



shattuck & grummett, inc.

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RTD



INSURANCE ALTERNATIVES ANALYSIS
FOR THE CONSTRUCTION OF THE SOUTHERN
CALIFORNIA RAPID TRANSIT DISTRICT'S
METRO RAIL PROJECT

Final Report

David B. Ashley

January 4, 1982

14 Manchester Road
Winchester, MA 01890
February 5, 1982

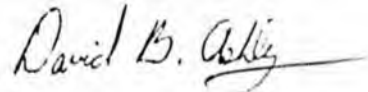
Mr. Richard Gallagher
Manager/Chief Engineer
Metro Rail Project
6th Floor
Southern California Rapid
Transit District
425 South Main Street
Los Angeles, CA 90013

Dear Mr. Gallagher:

It is a pleasure to provide you with the final report, "Insurance Alternatives Analysis for Southern California Rapid Transit District's Metro Rail Project Construction," as the deliverable under your audit number 2349. I have incorporated comments from you, your staff, Mr. Pollack and Dr. Dyer.

I believe that the value and applicability of this analysis has been greatly enhanced by your contributions and interaction. I thank you for the opportunity of preparing this insurance study; it has been my pleasure to consult for the Metro Rail Project.

Sincerely yours,



David B. Ashley

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EXECUTIVE SUMMARY

Los Angeles's planned Metro Rail Project faces numerous uncertainties or risks during its period of construction. Many risks can be eliminated or reduced by proper management, some can be transferred to others by means of contracting procedures, and some remain. Of those remaining several are normally replaced with insurance coverage; cost of such insurance, however, may amount to as much as seven and four-tenths (7.4) (10) percent of direct construction costs. Such costs are not insignificant, such risks are not completely unmanageable. By taking over the construction insurance program, Southern California Rapid Transit District (SCRID) can both reduce risk exposure of the entire Metro Rail project and achieve major cost savings; cost benefits of three and two-tenths (3.2) percent of construction costs can be anticipated from an owner-controlled insurance program (OCIP).

A quantitative, risk analysis of insurance options is used to resolve the best approach and potential cost differences. Included in the analysis process is the determination of major factors influencing costs, structuring interrelationships among these factors, generating and testing insurance alternatives, and performing sensitivity analyses on important assumptions and data. Formulating and investigating the insurance decision in this manner allows the author to reach conclusions and make strong recommendations on definition and implementation of SCRID's insurance program.

The best insurance approach is a comprehensive, owner-controlled program containing workers' compensation, general liability, builders' risk and engineers' professional liability coverages. Savings over a conventional program are estimated to be forty-three (43) percent. A majority of savings derives from a loss-responsive workers' compensation policy; dedicated worker safety efforts in tunnel work are necessary to realize expected savings. SCRID accepts a major risk by adopting a loss-responsive policy; anticipated reductions in worker-accident frequency make this risk worth bearing.

More detailed analysis of insurance components reveals appropriate deductible levels on general liability and builders' risk policies, as well as implementation strategy for engineers' professional liability coverage. SCRID obtains much of the expected cost reductions by participating in loss-retention (i.e., deductible level) at a high level; values determined for cost savings assume that SCRID has a two-million (2,000,000) dollar deductible level on both general liability and builders' risk. Changing general liability deductible to five-hundred thousand (500,000) dollars still affords most of the foreseen benefit. Contractors, on the other hand, only share a small portion of deductibles in the optimal program. Some level of deductible responsibility should be given to contractors as an incentive device; too high a deductible level will force contractors to purchase base-level policies, thus negating cost benefits. As long as deductible exposure is not too great, the contractor will find it more cost-competitive to accept this risk and thus incentives. A two-thousand five hundred (2,500) dollar contractor deductible is chosen as reasonable and effective.

Recommended SCRID Actions

SCRID has already taken the first and perhaps most difficult step in implementating an OCIP, obtaining a legislative exception to permit this approach to be used on this transit project. The next step is to prepare a request for insurance administration proposals; particular care should be taken in defining expected scope of professional services. Evaluation criteria for administrator selection should concentrate on qualifications and OCIP experience of both key personnel and parent firm; other criteria include technical approach to insurance program and cost. Working closely with the chosen administrator during specific program design and insurance marketing is necessary, since it is the actual response of the insurance marketplace that fine-tunes deductible levels and coverage limits. To achieve estimated cost savings it is necessary to select an insurance administrator at least five (5) months before start of major construction activity; this duration should be sufficient for OCIP initiation and marketing to insurance carriers. Earlier program start-up would allow additional use of the insurance administrator's risk management skills in project planning. Finally, SCRID must monitor operation of the owner-controlled insurance program to obtain an on-going measure of its performance.

To achieve these savings, SCRID must actively participate in liability exposure risk sharing; with this role also comes additional administrative burden. The final balance, however, is clearly in favor of an owner-controlled program; SCRID should proceed confidently toward OCIP adoption.

SECTION I

INTRODUCTION

A thorough, quantitative risk analysis of insurance alternatives facing the Southern California Rapid Transit District (SCRID) on its new Metro Rail Project demonstrates conclusively that a comprehensive, owner-controlled insurance program (OCIP) is more effective than any other examined approach. In reaching this finding the author examined both major program components and detailed specifications for each component. Further study was necessary to verify analysis procedures and data assessments. This report presents the total analysis performed, major results, data sensitivity testing and significant insights gained.

I.1 Summary of Report Content

Each of four report sections contributes uniquely to the total. The remainder of Section I, aside from this summary, concisely answers insurance issues addressed in the consulting agreement Scope of Services.* All seven responses are cross-referenced to further report subsections and Appendices to provide detailed explanations.

Section II furnishes the most significant results and insurance program design specifications. SCRID's most cost-effective insurance option is an owner-controlled and purchased program consisting of workers' compensation, general liability, builders' risk and engineers' professional liability coverages. Contractors are given small deductible levels on general liability and builders' risk exposure as a safety incentive, while SCRID takes a high deductible level. This District risk-taking combined with a loss-responsive workers' compensation insurance policy results in significant cost reductions.

Impacts of different deductible levels for both contractors and SCRID receive special study in Section III. This section is devoted to detailed analyses of insurance component design, as well as sensitivity testing of critical data assessments. Both types of examination reveal the overall study to be robust; the report recommendations can thus be used with confidence.

Summary of important results and recommended SCRID insurance actions highlight the final section. In Section IV, comparative results are emphasized over absolute values; preference for insurance alternatives and deductible levels are felt to be particularly reliable. Of the many steps necessary to effectively implement the proposed OCIP, the one most strongly stressed is evaluation and selection of an insurance program administrator. To this end, evaluation criteria are suggested, ranked in order of importance.

*Refer to Agreement between Dr. D. Ashley and Southern California Rapid Transit District for the development of this report, Audit No. 7349.

I.2 Response to Scope of Services

Following are summary replies to Scope of Services Task 2; included are locations where more detailed answers can be found:

Task 2.a "Which of the coverages (workers' compensation builders' risk, and/or general liability) should be included in the [owner-controlled] program?"

Response: Worker's compensation, builders' risk, general liability and engineers' professional liability coverages should all be included in SCRID's owner-controlled insurance program.

Appropriate Report Sections. All of II and Appendix B.

Task 2.b "What are the most cost-effective levels of deductible for both [SCRID] and the contractors?"

Response: SCRID should accept at least a five-hundred thousand (\$500,000) dollar deductible on general liability coverage. SCRID's most cost-effective deductible level on builders' risk coverage is two-million (2,000,000) dollars. The District should not accept a self-retention loss level (or deductible) on engineers' professional liability exposure.

Contractor deductible levels above a minimum, on the other hand, do not have a major effect on total program costs. Contractors should be required to accept some deductible level; one-thousand (1,000) to two-thousand five-hundred (2,500) dollars per occurrence should provide adequate contractor incentive to maintain a safe workplace.

Appropriate Report Sections. III.1 (SCRID deductible) and III.2 (Contractor deductible).

Task 2.c "What are the additional premium costs for increasing the upper levels of coverage?"

Response: The estimated cost of extending the general liability coverage limit from the seventy-five million (75,000,000) dollars used in this analysis to one-hundred million (100,000,000) dollars is three-hundred thousand (300,000) dollars. The builders' risk coverage level of one-hundred million (100,000,000) dollars is perceived to be a realistic

maximum; reducing this limit by twenty-five million (25,000,000) dollars would result in an approximate four-million (4,000,000) dollar premium savings. Reducing engineers' professional liability coverage from fifty-million (50,000,000) to twenty-five million (25,000,000) dollars may yield a four-million (4,000,000) dollar premium savings.

Appropriate Report Section. III.5

Task 2.d "For workers' compensation insurance within an [owner-controlled] program which is more efficient for the [District], using a [loss-responsive]* approach or a fixed-rate policy?"

Response: A loss-responsive workers' compensation policy is much more cost-effective.

Appropriate Report Sections . II.2

Task 2.e "Should engineers' errors and omissions [engineers' professional liability] insurance be included? If it is, should coverage extend down to the section designer level?"

Response: As stated in the response to 2.a above, engineers' professional liability coverage should be included; incorporation of section designers in this program leads to lower expected total premium costs.

Appropriate Report Sections. II.5 and Appendix C.

Task 2.f "Expected costs for the [owner-controlled] program shall be determined. These costs are to be presented in two ways: 1) total insurance program costs (including absorbed losses and contractor insurance costs passed on to the [District] in bids) and 2) costs to be included directly in the [District's] construction budget".

* Discussions with California insurance brokerage firms indicates that the group retrospective-rating workers' compensation insurance approach used in most other owner-controlled transit insurance programs is not applicable in California. Other approaches yielding approximately the same benefits include dividend policies purchased by the owner; "loss-responsive" is the term used here to indicate this range of options. A critical difference from the retrospective-rating approach is that "loss-responsive" policies may not guarantee dividends to the owner from a good safety experience.

Response to 1)- Total insurance cost including absorbed losses and costs passed on by contractors is approximately eighty-four million (84,000,000) dollars*; this is the appropriate value to be used in selecting the insurance option.

Response to 2)- The above figure can be disaggregated into three portions: 1) direct line-item costs to SCRID, 2) SCRID contingency reserve amounts and 3) indirect costs passed on through bids. First, direct budget items include "total premiums" and "insurance administrator fee"; these amount to approximately sixty-seven million (67,000,000) dollars*. Next, SCRID should hold in reserve an estimated sixteen million (16,000,000) dollars for "SCRID absorbed losses, insurance claims handling fee," and "risk premium" for accepting additional risk. The small difference between the sum of these values and the total used above is hidden in contractor bids.

Appropriate Report Sections. II.1 and Appendix B.

Task 2.g "Recommendations as to the Insurance Administrator's required qualifications. These recommendations may take the form of suggested evaluation criteria."

Response: Qualifications and experience of the director of the insurance administration function far outweighs any other single evaluation criterion; contracts between SCRID's and its insurance administrator should clearly state SCRID's rights of review and dismissal of key personnel. Service and marketing capabilities of the parent firm should be ranked second as a selection criterion. Following in order of importance are: company experience in owner-controlled insurance programs, technical approach, administrator management organization and cost.

Appropriate Report Sections. IV.2 and Appendix D.

* All insurance dollar costs are based on a total construction cost of \$2 billion (in 1986 dollars) and a construction start of mid-1982; eighty-one (81) percent of construction was assumed to occur between 1985 and 1989. See Appendix E for insurance cost adjustments for different total construction costs.

SECTION II

ANALYSIS OF TOTAL INSURANCE PROGRAM

Analysis of insurance alternatives is separated into two parts; analysis of total program (this section) and Special Studies (Section III). Analysis of the total insurance program is presented first as the overall best program and then each coverage component is discussed individually. For purposes of clarity and brevity, this section gives only a synopsis of factors considered in insurance selection and the resulting analysis for SCRID; Appendix A, "The Insurance Decision," and Appendix B, "Detailed Comparison of SCRID Insurance Alternatives," provide a more complete back-up to this section.

II.1 Best Program

The Southern California Rapid Transit District can reduce its expected insurance costs by approximately forty-three (43) percent by electing to use a totally owner-controlled program. This program includes workers' compensation, general liability, builders' risk and engineers' professional liability* coverages. A detailed description of each component can be found in following subsections. Expected total cost of this comprehensive owner-controlled program is estimated to be four and two-tenths (4.2) percent of total construction costs. This value is comparable, through slightly lower, to experiences of other urban mass transit properties adopting a coordinated insurance program approach.

Cost-effectiveness of this proposed owner-controlled avenue derives primarily from savings in the workers' compensation and builders' risk elements; they account for fifty-one (51) and twenty-six (26) percent of total savings, respectively. Such savings in turn rely on a strong and effective safety program to reduce both accident frequency and severity; controlling safety has been the key to other successful owner-controlled programs. A substantial portion of anticipated savings come also from SCRID's participation in directly absorbing losses. Due to the District's comparatively large asset position vis-a-vis other project participants it is relatively risk neutral over a wider range of potential losses; by taking on a substantial portion of these risks it can avoid risk premiums that others would add. A third major contributor to cost savings appears to be the current and anticipated future insurance market. It is forecast that the Metro Rail Project will achieve its construction peak during the years when insurance premium rates should also peak. Combination of higher self-retention levels with poor insurance market conditions leads to a significant cost reduction. A fourth and final factor influencing cost differences is the insurance volume purchasing power of an owner-controlled program. All four factors favor an OCIP.

*Engineers' professional liability insurance is often referred to as "errors and omissions" or "E&O" insurance.

A more detailed study of the program as a whole shows impacts of including or removing various coverage elements from the package. Figure 1 and the accompanying Table 1 show results of redefining program elements. This study shows rather convincingly that all four major coverage elements should be included. Table 2 complements this finding by demonstrating absolute and percentage differences of each element in the two insurance approaches. Workers' compensation, general liability, builders' risk and engineers' professional liability coverage costs are reduced approximately fifty-four (54), fifty-nine (59), forty-five (45) and twenty-one (21) percent, respectively; these amass a total expected savings of approximately sixty-four (64) million dollars. An insurance administration fee of roughly one (1) million dollars* provides a slight offset and yields a total expected savings of sixty-three million (63,000,000) dollars.

Distribution of the total owner-controlled insurance program costs by both insurance type and work type provides some interesting insight. Using the base case data from Table 1, one can derive a "pie-chart" distribution of costs to insurance coverage component. The results displayed in Figure 2 indicate workers' compensation and engineers' professional liability combine to almost seventy (70) percent of expected total insurance dollar expenditure. By contrast, Figure 3 and supporting data in Table 3, indicate distribution of insurance dollars by work type; station, tunnel and system consume fifty-four (54) forty-two (42) and four (4) percent of total insurance costs. More detail on distribution by work type for each insurance type can be found in following subsections.

An interesting comparison between a conventional and owner-controlled insurance program can be made by analyzing costs incurred and passed on by each participant. Table 4 demonstrates such a study for workers' compensation, general liability and builders' risk coverages. Column 1 gives total insurance premium costs charged by the insurance carriers; in the conventional case these charges pass through the contractors who in turn add a profit fee as well as anticipated absorbed losses. In the OCIP approach the contractor only adds anticipated absorbed losses and a small amount to protect against claims not allowed by the insurance carriers; contractors interviewed felt that approximately one (1) percent of claims normally honored by their own insurers would be disallowed by an OCIP. These contractor additions can be found by subtracting column 1 from column 2. SCRID costs including absorbed losses and a premium for accepting more risk are given by column 3, "SCRID costs." Combining "Total cost contractors pass to SCRID" with "SCRID costs" gives a value corresponding to totals used previously.

More detailed discussions of workers' compensation, general liability, builders' risk and engineers' professional liability coverages are contained in the following subsections. These discussions focus on specific coverage assumptions/definitions and distributions of cost among construction work types.

* This fee estimate is derived from discussions with several insurance industry experts. It includes the insurance administrator's profit and general overhead expenses; it does not include reimbursible expenses derived from claims handling administration. Reimbursible expenses are included directly in estimates of insurance cost components.

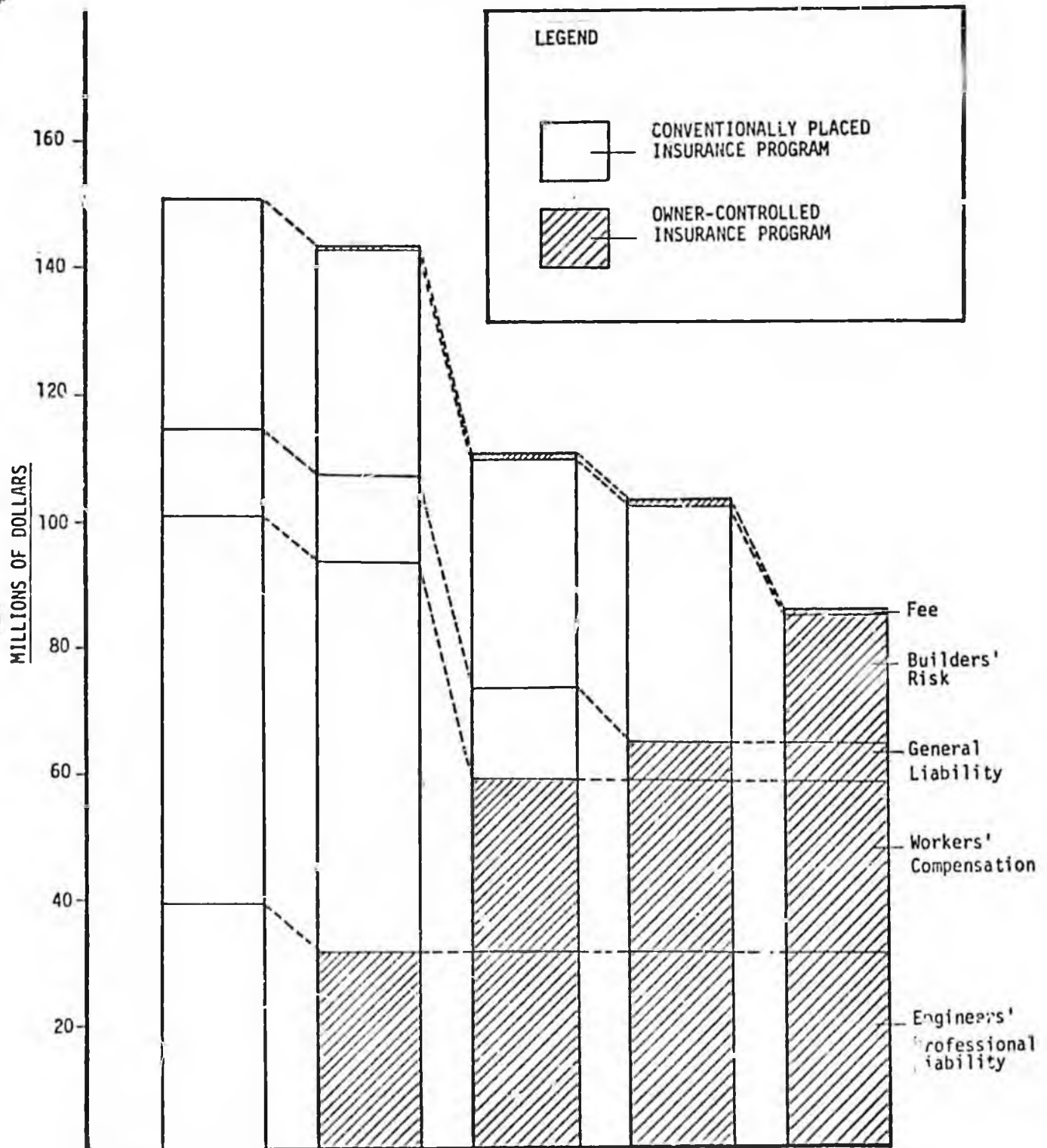


Figure 1 - Costs of Insurance Program Options

Base Case (Conventional)

<u>Insurance Item</u>	<u>Cost</u>	<u>% of Total</u>
Workers' Compensation	\$ 59,972,000	41%
General Liability	13,309,000	9%
Builders' Risk	36,084,000	24%
Engineers' professional liability	<u>38,000,000</u>	<u>26%</u>
	\$ 147,365,000*	100%

7.4% of construction cost

Base Case (Owner-controlled Insurance Program)

<u>Insurance Item</u>	<u>Cost</u>	<u>% of Total</u>
Workers' Compensation	\$ 27,699,000	33%
General Liability	5,419,000	6.5%
Builders' Risk	19,714,000	23.5%
Engineers' Professional Liability	30,000,000	35.8%
Fee	<u>\$ 1,009,000</u>	<u>1.2%</u>
	\$ 83,841,000*	100%

4.2% of construction cost

TABLE 1 - Insurance Program Base Cases

*All insurance dollar costs are based on a total construction cost of \$2 billion, in 1986 dollars. See Appendix E for insurance cost adjustments for different total construction costs.

Type	Conventional	OCIP	Difference	% from Conventional	% of Total Savings
Total	\$147,365,000	\$ 83,841,000	\$ 63,524,000	43%	100%
Workers' Comp.	\$ 59,972,000	27,699,000	32,273,000	54%	51%
General Liability	\$ 13,309,000	5,419,000	7,890,000	59%	12%
Builders' Risk	\$ 36,084,000	19,714,000	16,370,000	45%	26%
Engineers' Professional Liability	\$ 38,000,000	30,000,000	8,000,000	21%	13%
Fee	0	\$ 1,009,000	-1,009,000	NA.	-2%

TABLE 2 - Summary Comparison of Insurance Alternatives

II.2 Workers' Compensation

Workers' compensation insurance coverage is a legal requirement of the employer. When this coverage becomes an element in an owner-controlled insurance program, the project owner must guarantee that these legal requirements are fulfilled. Two options face the owner in adopting this element: 1) fixed-rate policy and 2) loss-responsive policy. Appendix A presents in limited detail differences between these two approaches. In the case of a fixed-rate policy, total insurance cost depends on the loss-ratio established as a basis; assumption of an industry-wide average yields workers' compensation costs on par with the conventional cost of approximately sixty million (60,000,000) dollars. Negotiating with the carrier a lower loss-ratio basis reduces total cost, but would not normally achieve the OCIP case of about twenty-eight million (28,000,000) dollars. Adopting an OCIP thus seems to also require using a loss-responsive option.

The majority of workers' compensation insurance cost is incurred in tunnel construction work. As can be seen in Figure 4 and Table 5, costs are distributed sixty-three (63) percent tunneling, thirty-two (32) percent station work and five (5) percent systems work. Safety programs instituted by SCRTD should thus emphasize worker safety in the tunnels; these programs should be especially concerned with potential methane gas hazards during tunneling.

II.3 General Liability

The base case general liability coverage assumes a contractor deductible level of two-thousand five-hundred (2,500) dollars per occurrence and a SCRID retention amount of two-million (\$2,000,000) dollars. Insurance coverage is assumed to a total limit of seventy-five million (\$75,000,000) dollars; this can be compared to the limit of thirty-million (30,000,000) used in analyzing the conventional base case. Impacts of deductible/retention levels and upper-level coverage limits are further explored in Section III of this report.

As demonstrated by Figure 5 and Table 6, general liability costs arise primarily from station construction work; sixty-two (62) percent of total cost derives from this source. Tunnel and system construction contribute thirty-six (36) and two (2) percent, respectively. This distribution makes intuitive sense; SCRID's greatest third-party liability exposure occurs in the open-excavation of work connected with stations. Adjacent buildings are especially sensitive to this type of construction.

II.4 Builders' Risk

Builders' risk insurance coverage as defined for the base case has deductible levels of two-thousand five-hundred (2,500) dollars and two-million (2,000,000) dollars for contractors and SCRID, respectively. Total limit on coverage extends to one-hundred million (100,000,000) dollars compared to the conventional case of thirty-million (30,000,000) dollars. As with the general liability insurance, further study of deductibles and coverage limits is contained in Section III.

<u>Work Types</u>	<u>Cost (Excl. Fee and E&O)</u>	<u>% of Total</u>
Tunnel	\$ 22,006,000	42%
System	\$ 2,262,000	4%
Station	\$ 28,564,000	54%
	\$ 52,832,000	100%

TABLE 3 - Distribution of Program Costs Among Work Types

FIGURE 2. - OCIP Base Case:
Distribution by
Insurance Type

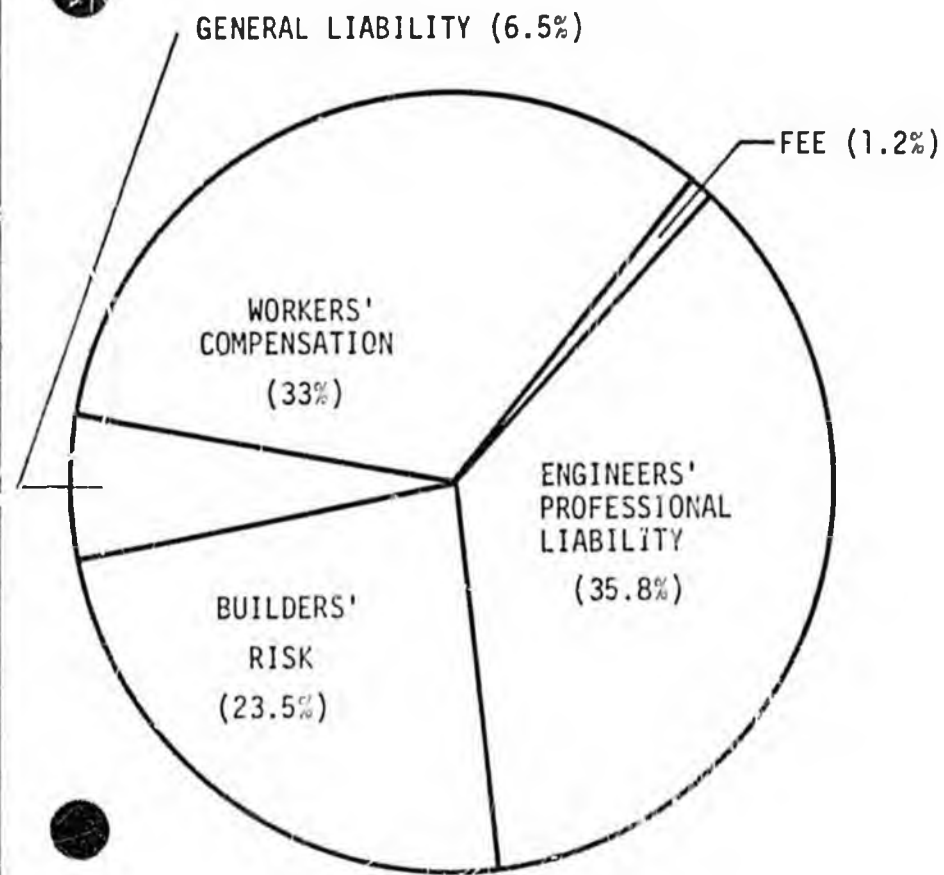
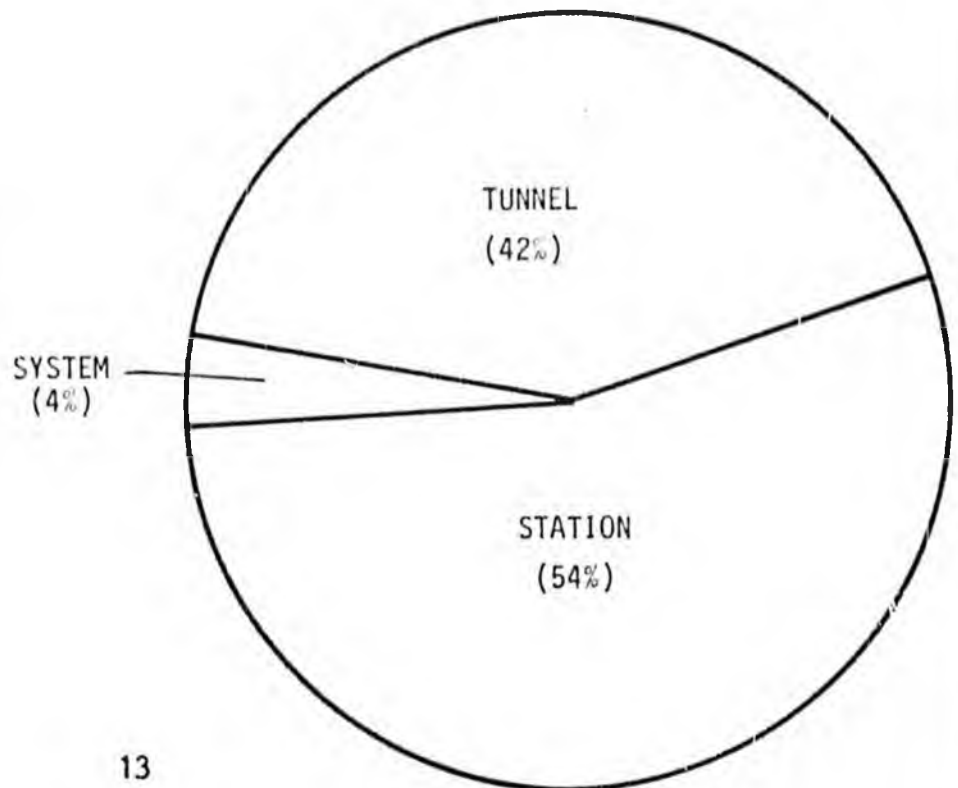


FIGURE 3 - OCIP Base Case:
Distribution by
Work Type



		Total Premium ¹	Total Cost Contractors Pass to SCRID ²	SCRID ³ Costs ³	Total
Workers'	Conv.	\$ 53,042,000	\$ 59,972,000	\$ 0	\$ 59,972,000
Compensation	OCIP	22,051,000	22,051,000	5,648,000	27,699,000
General	Conv.	10,942,000	13,309,000	0	13,309,000
Liability	OCIP	548,000	1,392,000	4,027,000	5,419,000
Builders'	Conv.	31,628,000	36,084,000	0	36,084,000
Risk	OCIP	13,339,000	13,487,000	6,227,000	19,714,000
Total	Conv.	95,620,000	109,365,000	0	109,365,000
(Excl. E&O & Fee) ⁴	OCIP	35,938,000	36,930,000	15,902,000	52,832,000

TABLE 4 - Insurance Costs by Participant

¹Includes insurer's expected losses, risk premium and handling costs on covered loss amounts.

²Includes total premium from first column and expected contractor absorbed losses, uninsured losses, risk premium and associated profit.

³Includes expected SCRID absorbed losses, risk premium and handling costs on uninsured loss amounts.

⁴Engineers' professional liability insurance and insurance administrator's fee are omitted due to their different estimate bases; these bases are discussed in Sections II.1 and II.5.

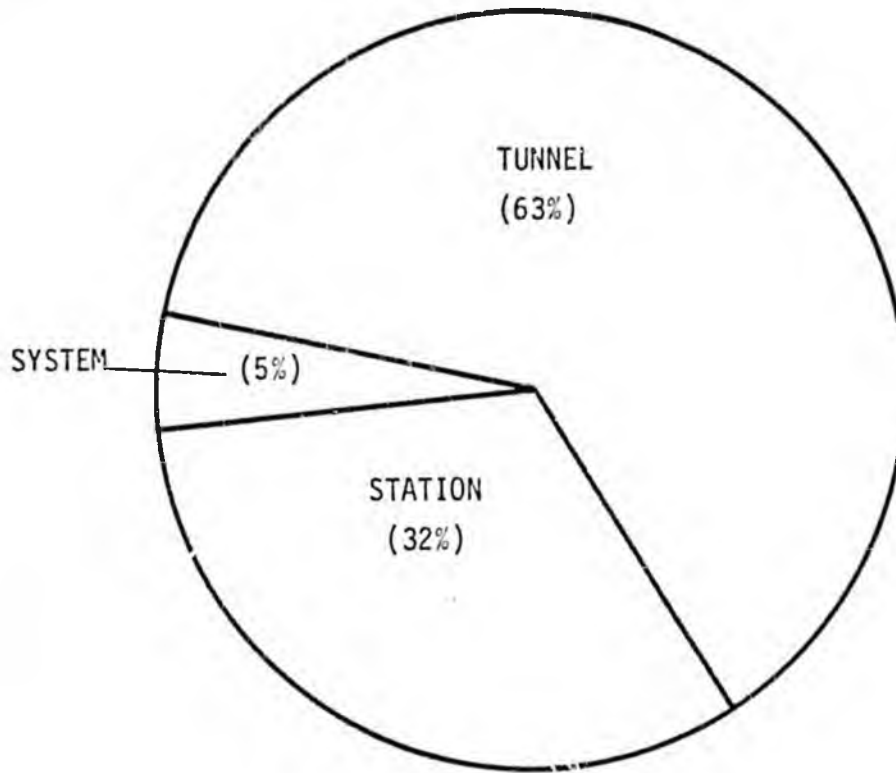


FIGURE 4 - Distribution of Workers' Compensation Insurance Dollar by Work Type

<u>Work Type</u>	<u>Cost</u>	<u>% of Total</u>
Tunnel	\$ 17,469,000	63%
System	1,504,000	5%
Station	<u>8,726,000</u>	<u>32%</u>
	\$ 27,699,000	100%

TABLE 5 - Distribution of Workers' Compensation Insurance Cost by Work Type

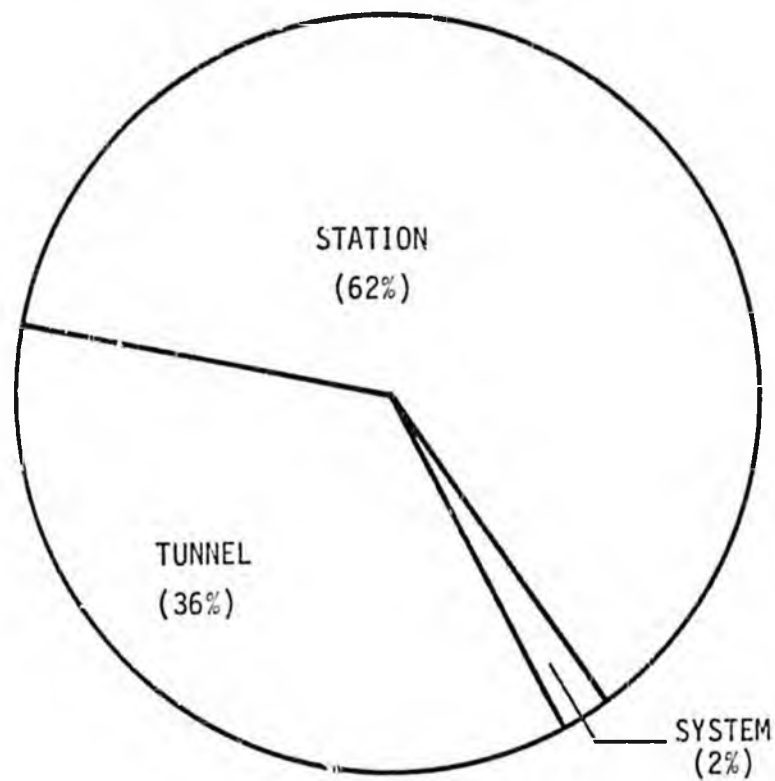


FIGURE 5 - Distribution of General Liability Insurance Dollar by Work Type

<u>Work Type</u>	<u>Cost</u>	<u>% of Total</u>
Tunnel	\$ 1,950,000	36%
System	88,000	2%
Station	<u>3,381,000</u>	<u>62%</u>
	\$ 5,419,000	100%

TABLE 6 - Distribution of General Liability Insurance Cost by Work Type

II.5 Engineers' Professional Liability

Analysis of engineers' professional liability, commonly called "errors and omissions" insurance, was performed in a different manner than the previous three insurance program components. Unlike these others, engineers' errors and omissions is quoted on an expected insurance premium rate basis. Two reasons contribute to this approach. First, actual claims against this policy will not typically be made until the transit system is in operation, or at least substantially finished with construction. The second reason is that experience of claims in this area are much more limited than other insurance areas. The second reason argues against accuracy of claims assessments while the first demonstrates premium quotations to be more appropriate anyway. A summary analysis of options and estimated costs to SCRID is given in Appendix C.; these estimates should be considered as more "rough" or approximate than values presented for other program elements.

The chosen engineers' professional liability option, number three (3) in Appendix C, covers both primary engineering/architectural consultants and section designers from five-million (5,000,000) to fifty-million (50,000,000) dollars. Coverage for the first five-million (5,000,000) dollars must be obtained by the individual design firms; this "deductible" has the advantage of allowing engineering/architectural firms to maintain continuity in their corporate-wide professional liability insurance policy. As an additional advantage, this assures SCRID that all designers still have incentives to follow "good engineering practices." These policies typically contain deductibles that require a firm to be financially sound to absorb. The five-million (5,000,000) dollar deductible is not explicitly determined as best, but it does reflect actual experiences on other transit projects. To obtain cost-reduction benefits, premium costs included in the firm's overhead rate should be limited to the first five-million (5,000,000) dollars of coverage.

Engineers' professional liability policies are often written on a "claims made" basis. Instead, SCRID should insist on policies being written on an "occurrence" basis. The latter guarantees coverage available to cover losses resulting from engineering errors and omissions regardless of when the actual claim is made, while the former provides coverage only if the policy is in force when the claim is actually made. If the firm goes out of business after finishing work on the original project, or fails for any reason to renew its "claims made" policy, then there is no coverage available at the time a claim is actually made. An "occurrence" based Engineers' Professional Liability Policy is thus preferred for this Project.*

* This paragraph was contributed by F. Frederick Pollack, Insurance Manager, SCRID.

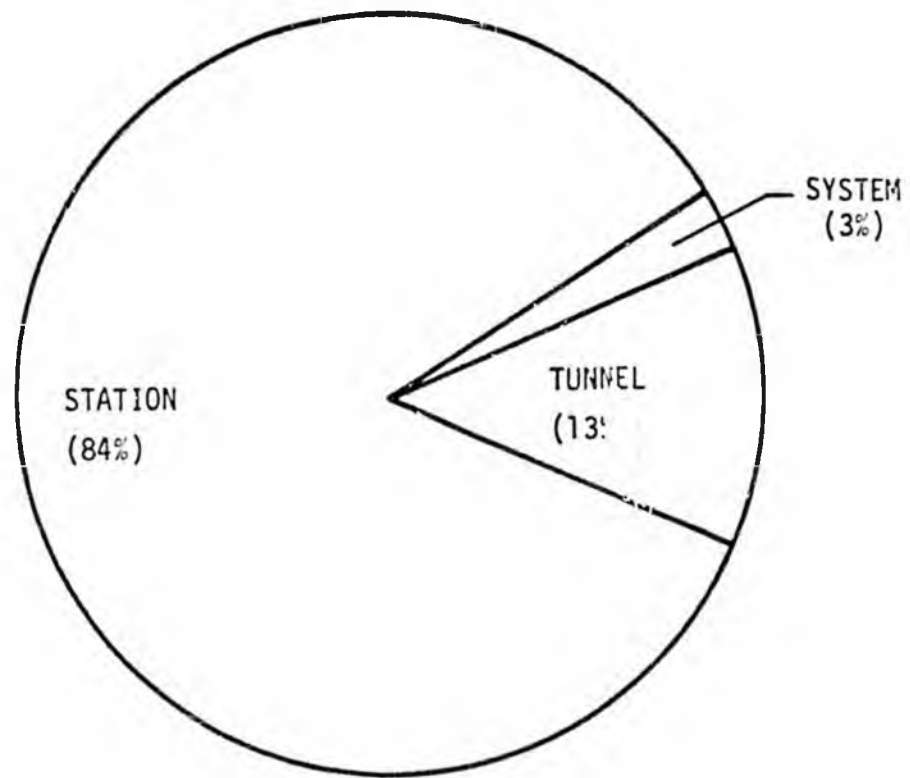


FIGURE 6 - Distribution of Builders' Risk Insurance Dollar by Work Type

<u>Work Type</u>	<u>Cost</u>	<u>% of Total</u>
Tunnel	\$ 2,586,000	13%
System	670,000	3%
Station	<u>16,458,000</u>	<u>84%</u>
	\$ 19,714,000	100%

TABLE 7 - Distribution of Builders' Risk Insurance Cost by Work Type

SECTION III

SPECIAL STUDIES

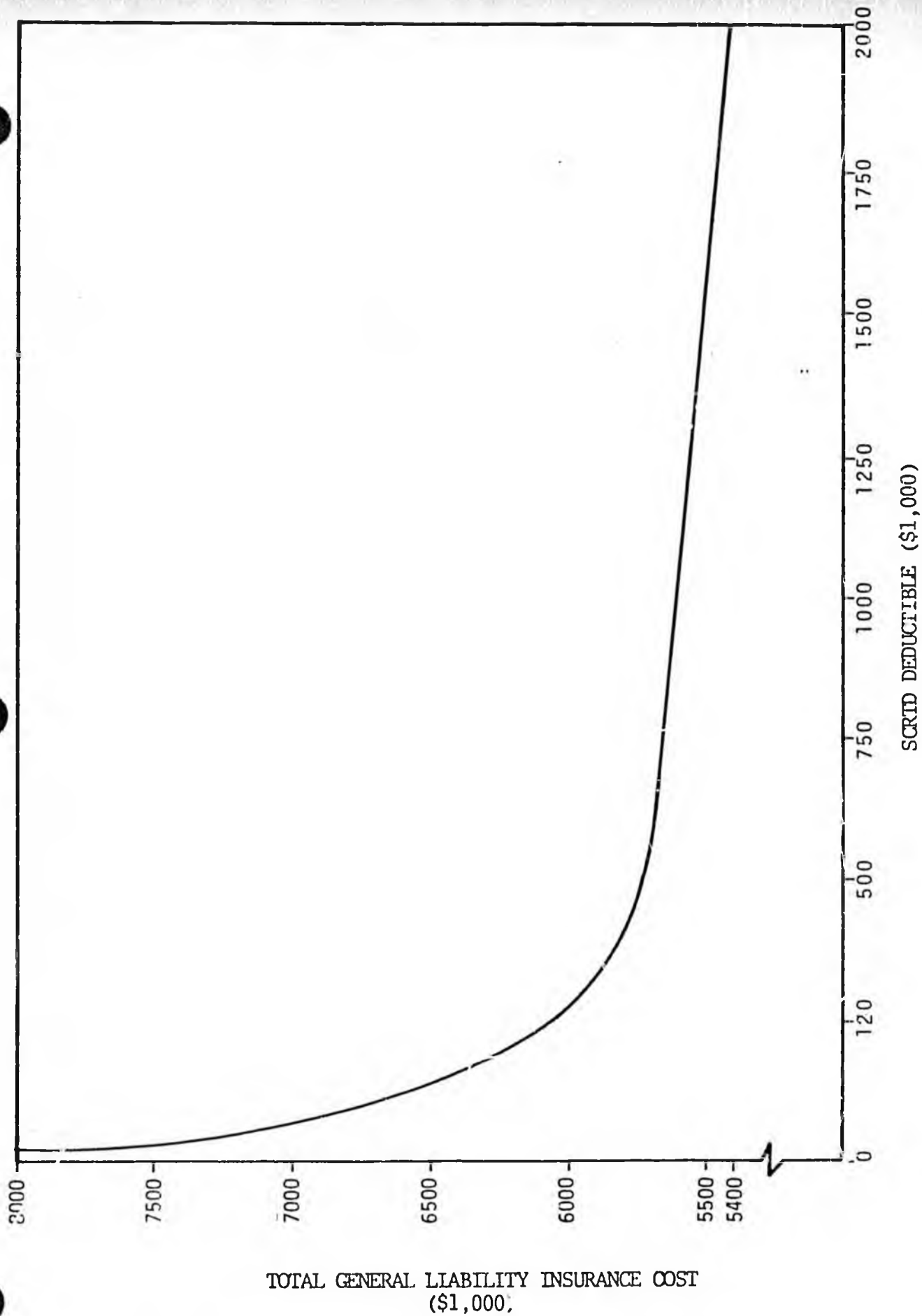
This section covers studies intended to explore various insurance strategies and sensitivity analyses to test robustness of assumptions used. Strategies considered are deductible policies for both SCRID and contractors, inclusion of a safety incentive program to share good-safety cost savings with contractors and extension of coverage limits. Two sensitivity analyses are performed: 1) SCRID risk preference and 2) accident rate assessments. Both the strategy and sensitivity analyses reinforce the values determined previously.

III.1 SCRID Deductible

SCRID's self-retention or deductible levels on both general liability and builders' risk coverages are examined to determine an optimal level for the owner-controlled insurance program. Figures 7 and 8 and Table 8 show results of the examination; both general liability and builders' risk benefit substantially from SCRID assuming a high self-retention level. Costs indicated in both figures and tables include not only expected premium costs but also expected absorbed losses and a premium for accepting additional risk.

Figure 7 suggests a two-million (2,000,000) dollar cost savings for SCRID participating in deductibles up to a five-hundred thousand (500,000) dollar level; extending this to two-million (2,000,000) dollars may yield an additional three-hundred thousand (300,000) dollar savings. Although all previous analyses used the higher deductible figure due to its "optimal" cost implications, a reduction to the five-hundred thousand (500,000) dollar level would have a minimum to negligible impact on total costs.

Results from the builders' risk deductible analysis do not indicate the same flexibility. In this case, assumption of five-hundred thousand (500,000) dollars as a self-retention amount leads to an approximate savings of five million (5,000,000) dollars, while a two-million (2,000,000) dollar deductible provides an additional three-million (3,000,000) dollar expected savings. By participating in builders' risk coverage self-retention to the higher level, SCRID can expect a total savings on the order of five-million (5,000,000) dollars.



TOTAL GENERAL LIABILITY INSURANCE COST
(\$1,000)

Figure 7 - General Liability Insurance Cost as a Function of SCRTD Deductible

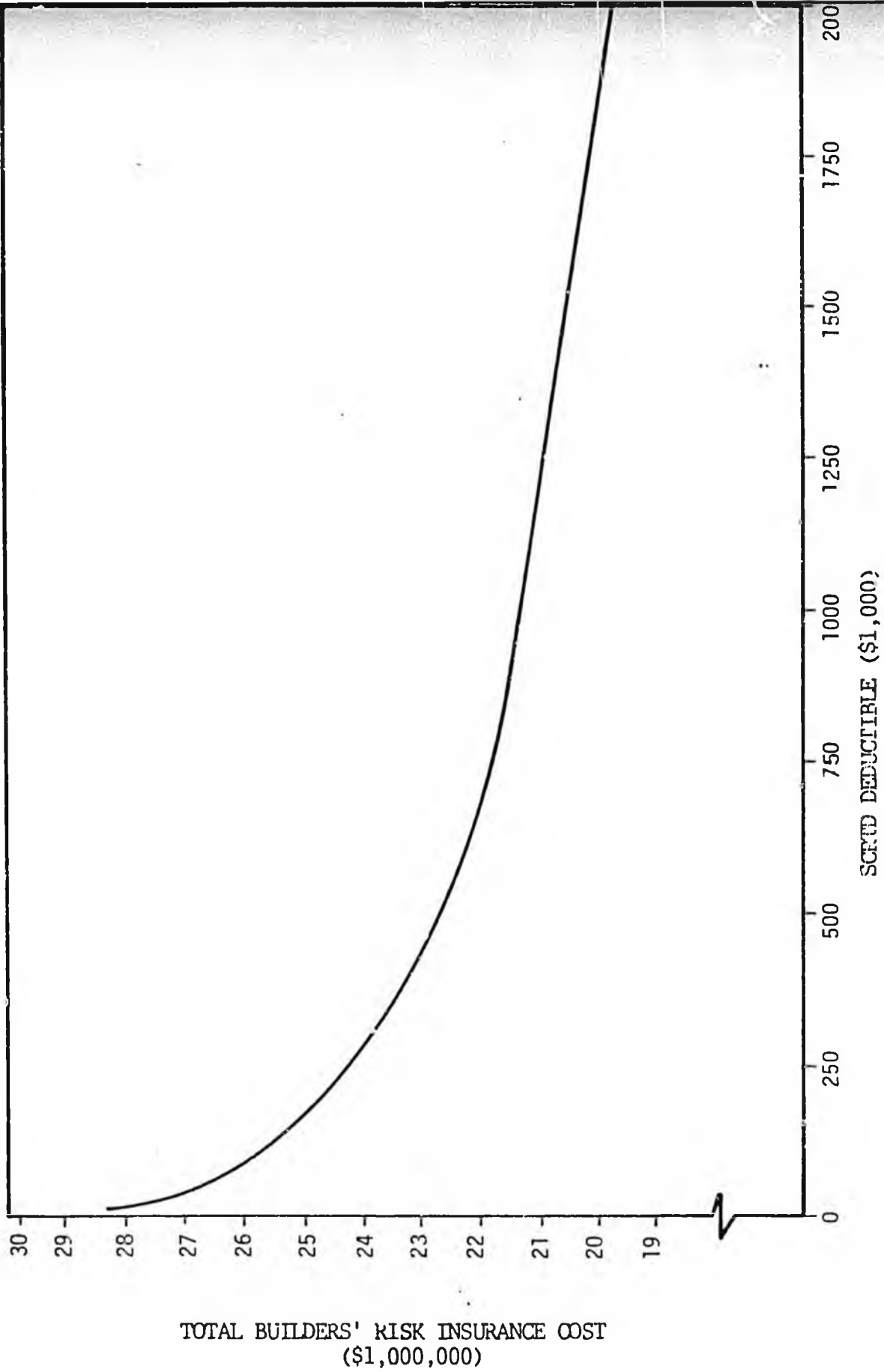


Figure 8 - Builder's Risk Insurance Cost as a Function of SCRTD Deductible

<u>SCRID Deductible</u>	<u>Total (Excl. E&O and Fee)</u>	<u>General Liability</u>	<u>Builders' Risk</u>
[Base] 2,000,000	\$ 52,832,000	\$ 5,419,000	\$ 19,714,000
25,000	63,072,000	7,857,000	27,516,000
100,000	60,261,000	6,724,000	25,839,000
250,000	57,943,000	6,075,000	24,169,000
500,000	56,068,000	5,702,000	22,668,000
2,000,000	52,831,000	5,418,000	19,714,000

TABLE 8 - SCRID Deductible Levels

III.2 Contractor Deductible

One of the tools for providing incentives for good safety practices to the contractor is the specification that he/she accept a deductible amount on both general liability and builders' risk coverages. This approach appropriately assumes that concern for work-site safety can mitigate many hazards and potential losses. Care should be taken, however, to avoid a deductible so high that contractors are forced to acquire their own insurance policies; such behavior would significantly reduce the benefits derived from SCRID's risk sharing.

Total insurance cost, excluding engineers' professional liability coverage and fees, as a function of contractor deductible levels is shown graphically in Figure 9, and is supported in more detail by Table 9. The range of cost savings extends from none at a "no contractor deductible" point to approximately one-million four-hundred thousand (1,400,000) dollars at a one-hundred thousand (100,000) dollar deductible level. Any contractor deductible beyond say twenty-five thousand (25,000) dollars would potentially encounter the contractor purchasing insurance; as stated earlier, this should be avoided. Thus, the expected savings up to this twenty-five thousand (25,000) dollar level is only one-million (1,000,000) dollars; at two-thousand five-hundred (2,500) dollars, the value used in prior analyses, anticipated savings are seven-hundred thousand (700,00) dollars. This study points out that some contractor deductible is desirable, but that a minimal amount will achieve much of the hoped for incentive effect.

III.3 Safety Incentive Program

Unlike the contractor deductible mechanism just discussed, that only penalizes poor safety performance, a safety incentive program directed toward worker safety both penalizes and rewards on the basis of safety experience. Table 10 indicates an approximate eight (8) percent additional cost reduction by using a safety incentive program; this does not consider, however, how much of the savings is returned to contractors as a safety bonus. If for example, an even-sharing rule were instituted, then this figure would devalue to an estimated three-million four-hundred thousand (3,400,000) dollars. The reader should also note that data for this analysis is independent from that previously used.

III.4 Extending Coverage Limits

Choice of coverage limits is indeed a difficult task; the basic trouble lies in assessing likelihoods and values for very rare events. The effort required to accurately perform such analysis is beyond the scope of this report. An alternate avenue, however, is to catalog expected premium costs for extending the upper coverage limits. Such a listing is presented in Table 11 and represents data collected directly from insurance industry experts.

III.5 SCRID Risk Performance

As one might expect, SCRID's willingness and ability to accept financial risk plays a critical role in defining the best insurance program alternative. A sensitivity analysis of total insurance program costs to SCRID's risk preference is included; this sensitivity testing shows the robustness of previous results to the crucial assumption on SCRID's risk attitude.

Before showing sensitivity analysis results it is important to define the terminology used. Risk tolerance is a notion used to capture an individual's or agency's ability to take on risk. An approximate measure for risk tolerance is a value, X , at which an individual is just indifferent between taking a gamble where the gamble is a coin flip with prize X for heads and a cost $1/2X$ for tails; Figure 10 demonstrates this notion. For example, assume SCRID is faced with the choice of taking no action on a water-related construction problem or taking an action which has a fifty (50) percent chance of saving two-million (2,000,000) dollars and a fifty (50) percent chance of costing an additional one-million (1,000,000) dollars; if SCRID were just indifferent between the action involving the gamble and no action, then SCRID's risk tolerance would be two-million (2,000,000) dollars. This risk tolerance would then be an appropriate measure for other SCRID decisions involving risk. A more complete discussion of risk preference can be found in Raiffa (1968).

TOTAL INSURANCE COST (EXCLUDING ENGINEERS' E&O AND FEE) (\$1,000,000's)

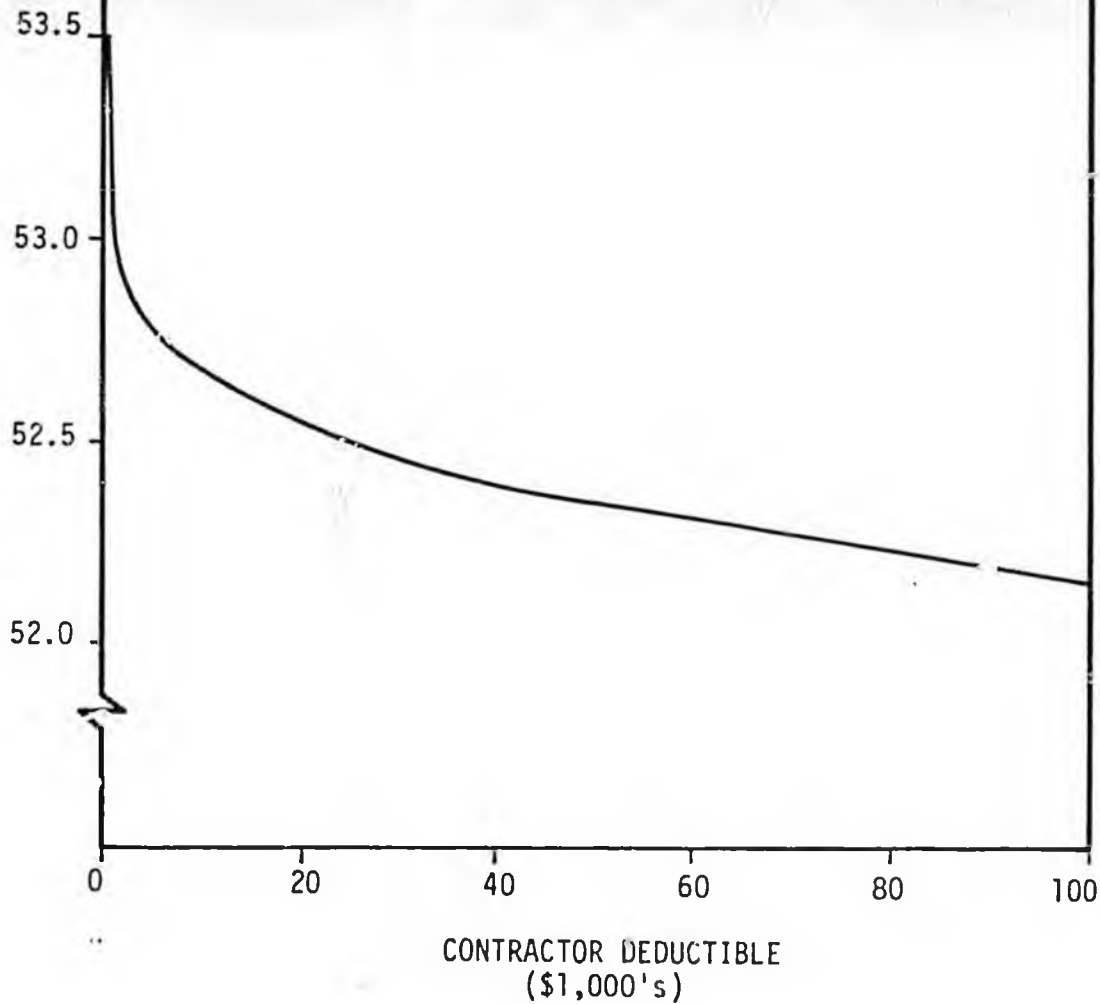


FIGURE 9 - Impact of Contractor Deductible on Total Insurance Cost

<u>Contractor Deductible</u>	<u>Total (Excl. E&O and Fee)</u>	<u>General Liability</u>	<u>Builders' Risk</u>
[Base] 2,500	\$ 52,832,000	\$ 5,419,000	\$ 19,714,000
0	53,507,000	6,072,000	19,736,000
1,000	52,879,000	5,454,000	19,726,000
2,500	52,831,000	5,418,000	19,714,000
25,000	52,544,000	5,258,000	19,587,000
50,000	52,371,000	5,187,000	19,484,000
100,000	52,12,000	5,105,000	19,324,000

TABLE 9 - Contractor Deductible Levels

All prior analyses assumed a risk tolerance of one-million five-hundred thousand (1,500,000) dollars; evidence from current SCRID insurance practices indicate this assumed value to be reasonable. A sensitivity analysis on risk tolerance should therefore test the range of risk tolerances that still have an OCIP preferred over a conventional approach. This test is displayed in Figure 11 and supported by Table 12. Results clearly indicate that choice of OCIP is not sensitive to the assumption on SCRID risk tolerance. Risk tolerance must reduce to approximately one-hundred fifty-thousand (150,000) dollars before a conventional insurance option is preferable; this is a factor of ten difference from the assumed value. In addition, risk tolerances between five-hundred thousand (500,000) dollars and two-million (2,000,000) dollars have relatively small impacts on the insurance program cost. Selection of insurance approach is thus not sensitive to SCRID's assumed risk preference.

III.6 Accident Frequency Assessment

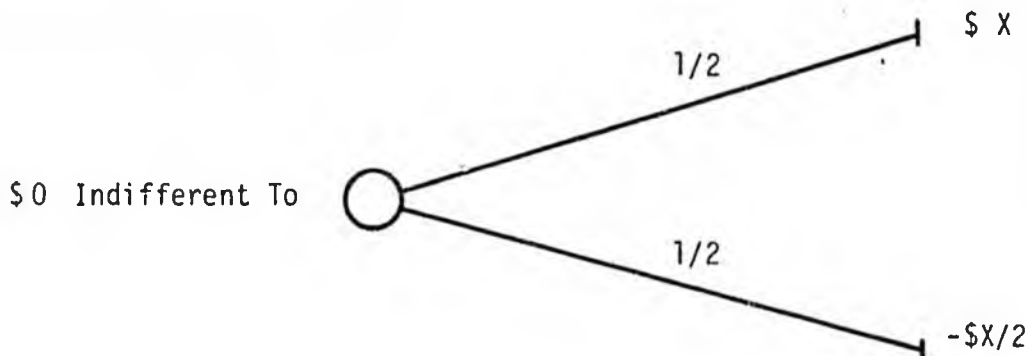
Accident frequency and severity play a dominant role in determining total insurance costs. In the situation of an owner-controlled insurance program, actual experience dictates actual costs; forecasting project safety performance is thus key to accurately estimating insurance program costs. Insurance industry experts and construction contractors are major sources for accident data assessment. Results stated thus far are based primarily on accident data assessed from Mr. James Murphy of the Fred S. James Company. A second, completely independent source was provided by Mr. Roger Thomas and his firm, Johnson & Higgins of California, and provides a verification of values already ascertained. A second sensitivity analysis of this critical data tests impacts of increasing accident frequencies above the assessed levels.

New accident data assessments lead to a significantly new distribution of program cost, but agrees within five (5) percent on total cost to SCRID. Table 13 presents a comparison of data assessments and their associated insurance items percentage distributions. Major differences are in the workers' compensation and builders' risk components. As shown previously in Table 10, much of this larger workers' compensation cost can be reduced by a safety incentive program; total costs would then deviate only slightly. An independent accident data assessment demonstrates to a reasonably high level of confidence that total cost figures are reliable enough for decision-making.

A second sensitivity analysis to test robustness of original accident data assessments reveals that accident frequency rates must be increased by approximately one-hundred sixty (160) percent before they affect selection of insurance approach; this analysis is graphically presented by Figure 12. It is improbable that assessments could be off by such a high degree. Combining this conclusion with results from the independent assessment removes concern over any possible inaccuracies in accident data values used.

<u>Insurance Program</u>	<u>Worker's Compensation Cost</u>	<u>Total Cost</u>
OCIP without SIP	\$ 42,545,000	\$ 88,031,000
OCIP with SIP	<u>35,741,000</u>	<u>81,227,000</u>
Difference:	\$ 6,804,000	\$ 6,804,000
% Difference:	16%	8%

TABLE 10 - Safety Incentives Program* (SIP)



X IS DEFINED AS THE "RISK TOLERANCE" OF THE DECISION MAKER.

FIGURE 10 - Risk Tolerance Definition

*Data assessments for this comparison were supplied by Johnson & Higgins of California. Total insurance cost does not correspond to previous total since this assessment is independent.

<u>Insurance Type</u>	<u>Coverage Range</u>	<u>Premium Costs</u>
General Liability	\$ 100,000 to \$1 Million	\$ 16. Million
	\$ 1 Million to \$5 Million	\$ 4.8 Million
	\$ 5 Million to \$25 Million	\$ 3.2 Million
	\$ 25 Million to \$75 Million	\$ 1.6 Million
	\$ 75 Million to \$100 Million	\$.3 Million
Builders' Risk	\$ 25,000 to \$5 Million	\$ 14 Million
	\$ 5 Million to \$30 Million	\$ 6 Million
	\$ 30 Million to \$55 Million	\$ 4 Million
	\$ 55 Million to \$80 Million	\$ 4 Million
Engineers' Professional Liability	\$ 5 Million to \$10 Million	\$ 8 Million
	\$ 10 Million to \$25 Million	\$ 4 Million
	\$ 25 Million to \$50 Million	\$ 4 Million

TABLE 11 - Premium Costs for Extending Coverage Limits

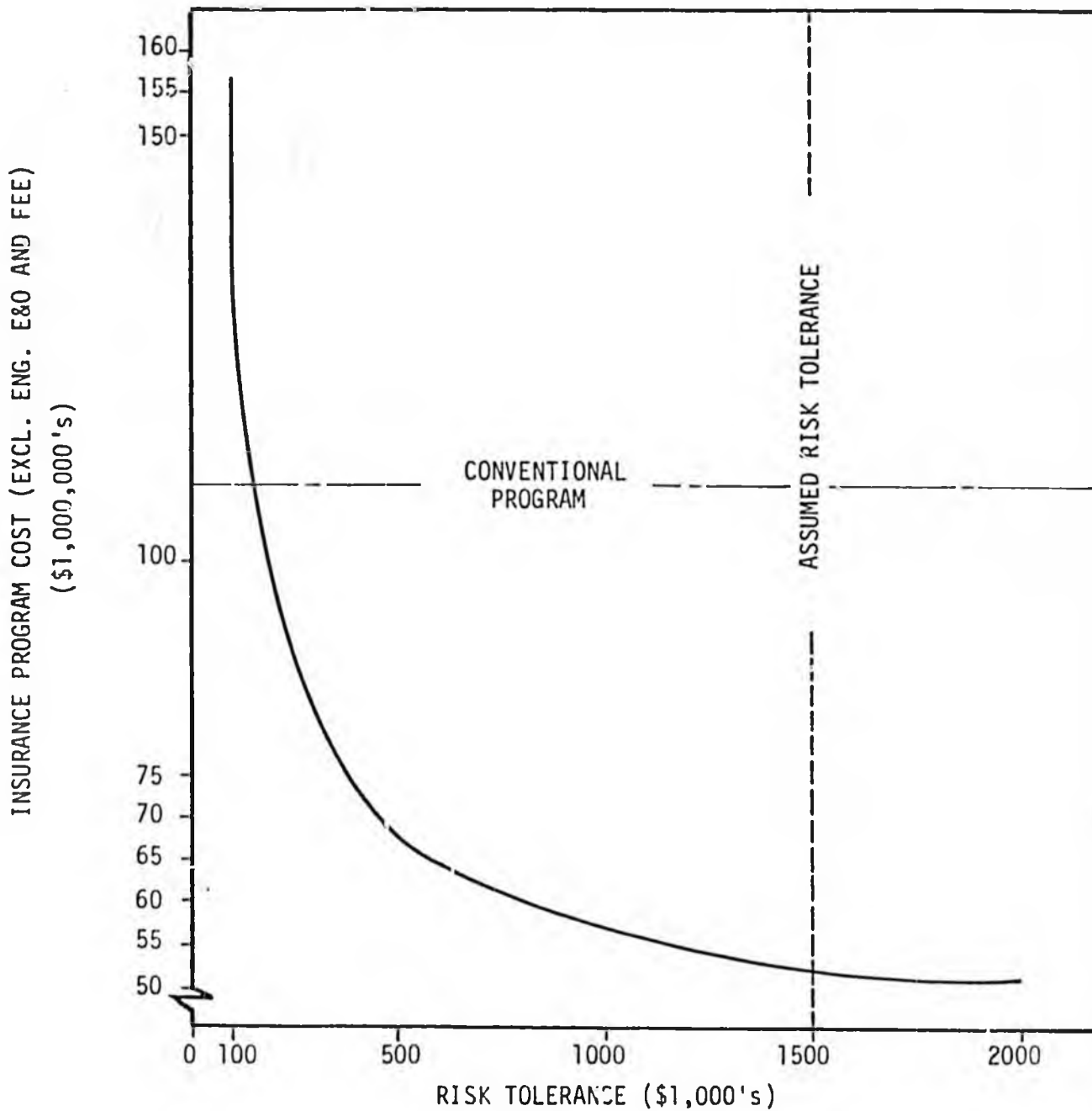


FIGURE 11 - Sensitivity Analysis of SCRID Risk Preference

SCRID Risk ToleranceTotal Cost (Excl. E&O and Fee)

[Base] \$ 1,500,000	\$ 52,832,000
100,000	157,350,000
500,000	67,763,000
1,500,000	52,831,000
2,000,000	50,965,000

TABLE 12 - Sensitivity Analysis of SCRID Risk Preference

Owner-Controlled Insurance Program

INSURANCE ITEM	NEW DATA		PREVIOUS DATA	
	<u>COST</u>	<u>% OF TOTAL</u>	<u>COST</u>	<u>% OF TOTAL</u>
Workers' Compensation	\$ 42,545,000	48.3%	\$ 27,699,000	33%
General Liability	\$ 3,739,000	4.3%	\$ 5,419,000	6.5%
Builders' Risk	\$ 10,744,000	12.2%	\$ 19,714,000	23.5%
Engineers' Professional Liability	\$ 30,000,000	34.1%	\$ 30,000,000	35.8%
Fee	\$ 1,009,000	1.1%	\$ 1,009,000	1.2%
	\$ 88,031,000	100.00%	\$ 83,841,000	100.00%

TABLE 13 - Comparison of Accident Rate Data Assessments*

*New values were provided by Johnson & Higgins of California.

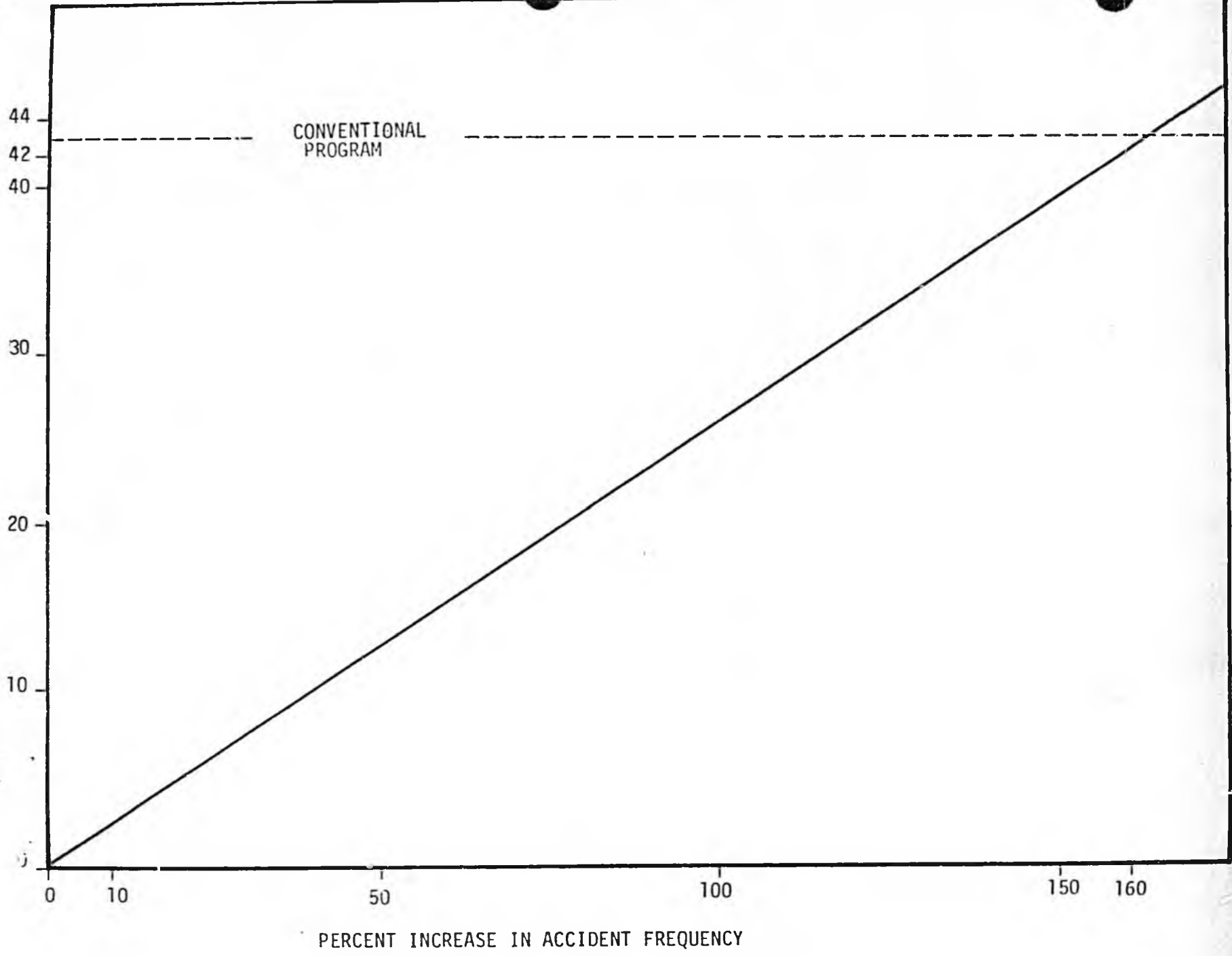


Figure 12 - Sensitivity Analysis of Accident Frequency Assessment

PERCENT INCREASE IN OCIP TOTAL COST

CONVENTIONAL PROGRAM

PERCENT INCREASE IN ACCIDENT FREQUENCY

SECTION IV

CONCLUSIONS

Conclusions to the insurance alternatives study are organized to convey and reiterate the most important results, recommend the next actions for the Southern California Rapid Transit District, and comment generally on the report validity and applicability.

IV.1 Summary of Important Results

Of the variety of insurance approach alternatives tested, an owner-controlled insurance program proved to be most cost-effective. Workers' compensation, general liability, builders' risk, and engineers' professional liability coverages are all components of this "best" program. Savings over a conventional insurance approach are estimated to be over forty (40) percent; this corresponds to approximately three (3) percent of total construction costs. A majority of the savings derive from a loss-responsive workers' compensation policy; workers' compensation insurance costs, in turn, originate primarily in tunnel construction. A comprehensive worker safety effort directed toward tunneling activities is thus where leverage is gained in achieving anticipated cost savings.

More detailed analysis of insurance components reveals appropriate deductible levels on general liability and builders' risk policies, as well as implementation strategy for engineers' professional liability coverage. SCRITD obtains much of the expected cost reductions by participating in loss-retention at a high level; values determined for cost savings assume that SCRITD has a two-million (2,000,000) dollar deductible level on both general liability and builders' risk. Changing general liability deductible to five-hundred thousand (500,000) dollars still affords most of the foreseen benefit. Contractors, on the other hand, only share a small portion of deductibles in the optimal program. Some level of deductible responsibility should be given to contractors as an incentive device; too high a deductible level will force contractors to purchase base-level policies, thus negating cost benefits. A two-thousand five hundred (2,500) dollar deductible is chosen as reasonable and effective.

Analysis of engineers' professional liability insurance does not benefit from the same depth and rigor as the study of other insurance components. Although results arise more-or-less directly from premium estimates, they point to a major cost savings from including this coverage in an owner-controlled program. By including section designers, their coverage limits can be extended from ten-million (10,000,000) to fifty-million (50,000,000) dollars with minor additional cost. Coverage of the first five-million (5,000,000) dollars of potential claims is considered the responsibility of the engineering firms, both primary consultants and section designers; this encourages good engineering practice and maintains an appropriate relationship between a firm and its professional liability insurer. Coverage beyond five-million (5,000,000) dollars may not be necessary for section designers;

these lower limits would implicitly place more liability on primary consultants and perhaps result in more conservative design.

The selection of insurance approach seems to be quite clear. By accepting greater risk exposure and administrative burden, SCRID can expect to reduce insurance costs. How the District proceeds toward this goal is discussed in the next subsection.

IV.2 Recommended SCRID Actions

SCRID has already taken the first and perhaps most difficult step in implementing an owner-controlled insurance program, obtaining a legislative exception to permit this approach to be used on this transit project. The next step is to prepare a request for insurance administration proposals; particular care should be taken in defining expected scope of professional services. The single most important task of selecting a firm to act as insurance program administrator during specific program design and insurance marketing is necessary since it is the actual response of the insurance marketplace that fine-tunes deductible levels and coverage limits. Finally, SCRID must monitor operation of the owner-controlled insurance program to obtain an on-going measure of its performance.

The one step mentioned above that is critical to successful implementation is evaluation and selection of insurance administrator. Evaluation criteria for firms and their proposals should include:

- . Qualifications and experience of the director, of the insurance administration function,
- . Service and marketing capabilities of the sponsor firm,
- . Company experience with owner-controlled insurance programs,
- . Technical approach to SCRID's insurance program,
- . Administrator management organization, and
- . Cost

These criteria are listed in approximate order of decreasing importance. Criteria developed from other sources can be found in Appendix D; these provide a comparison to those listed above. Proposed criteria above concentrate on personal and company capabilities; much less emphasis is placed on design and operation of the insurance program and cost. SCRID assure overall program quality by tightly defining "Scope of Services" and by continuous participation in program evolution.

Insurance administrator selection should occur at least five (5) months prior to start of major construction activity; this timing strengthens chances of realizing projected savings. Earlier selection would allow active participation of the insurance administrator in establishing contract general conditions and in overall review of program risk management.

IV.3 General Comments on Study

How far should SCRID trust these results? The comparative studies such as which program is most cost-effective and relative impacts of deductible levels should be very reliable. Percentage differences and relative alternative rankings are accurate enough for confident decision-making. Absolute values, however, are more suspect. Detailed information is lacking in several important areas. One would normally expect an OCIP to be four (4) to six (6) percent of total construction cost. This study's estimate of approximately four (4) percent is at the low end of the anticipated range; caution in accepting absolute figures is therefore advised.

No specific discussion has been presented on management of reserve accounts; any insurance program with a large owner loss-retention such as an OCIP will typically set aside an expected loss amount for each claim presented. It may be many months before an actual award is made. Interest gained on these reserve accounts has not been factored into this analysis. To properly consider these investment effects it would also be necessary to consider timing of other financial flows of an OCIP. To a first order of analysis interest earned tends to balance delays in receiving dividends from a loss-responsive workers' compensation policy, thus a time-based study of cash flows does not appear necessary. Estimated costs quoted in this analysis can be considered as being in 1986 dollars.

Selection of a comprehensive OCIP and use of high SCRID loss-retention levels are the two most important conclusions of this study; both are eminently defensible. Section III contains a wide variety of sensitivity analyses designed to test the validity of these results; all provide reinforcement to the accuracy of the comparative studies. Southern California Rapid Transit District should implement an owner-controlled insurance program for the construction of the Metro Rail Project; such an action can be taken with assurance and confidence.

BIBLIOGRAPHY

Ashley, David., "Coordinated Insurance for Major Construction Projects," Journal of the Construction Division, ASCE, Vol. 106, No. C63, Proc. Paper 15697, September, 1980, pp. 307-313.

Ashley, David B., "Preliminary Insurance Program Selection for Urban Mass Transit Project Construction," Report to Niagara Frontier Transportation Authority, April 20, 1981.

Ashley, David B. and Parkinson, Thomas W., "Analysis of Construction Insurance Alternatives for Niagara Frontier Transportation Authority's Light Rail Rapid Transit Project", Report to Niagara Frontier Transportation Authority, November 19, 1979.

Barrett, James E., "Insurance for Urban Transportation Construction," U.S. Department of Transportation, Urban Mass Transportation Administration, Report No. UMTA-MA-06-0025-77-13, 1977.

Derk, Walter T., "Insurance for Contractors," Fred S. James & Company, Inc., Chicago, IL., 1974.

Raiffa, Howard, "Decision Analysis-Introductory Lectures on Choices Under Uncertainty," Addison-Wesley, Reading, MA. 1968.

APPENDIX A

The Insurance Decision*

*Most of the material in this appendix is extracted from "Analysis of Construction Insurance Alternatives for Niagara Frontier Transportation Authority's Light Rail Rapid Transit Project," David R. Ashley and Thomas W. Parkinson, November 19, 1979.

Characteristics of the Decision

Insurance is a hedge against risk. By paying a fixed, predetermined premium, one can avoid the possibility, however, unlikely, of large catastrophic losses. At the very worst, such losses could easily bankrupt an economic concern. In any case, the uncertainty surrounding the actual amount of losses incurred makes planning difficult.

This protection, however, comes with a price. The insurance premium includes an amount equal to the expected losses as well as a factor termed production loading. Production loading, which generally ranges from 40-60% of the premium, covers overhead, administrative costs, taxes, and pro-fit. The decision to buy insurance involves the balance between paying this production loading to the insurer and incurring the risks.

Consider a loss-responsive workers' compensation policy in the OCIP case. Under the loss-responsive plan, premiums are tied directly to loss experience. The loss ratio, the ratio of loss dollars paid out to premium dollars taken in, resulting from a project can never be known beforehand, although insurance carriers use 60% as an average. The effect of the safety program would reduce this average to about 51%. The actual loss ratio, however, might range from 30% to 80%. Figure A1 shows the distributions on loss ratio with the safety program.

At a loss ratio of about 67%, the costs of the retrospective policy will equal the costs of a fixed-rate policy. There is an 11% chance (shown as shaded area in Figure A1) that the loss-responsive policy would cost more than the fixed-rate. Thus, while the loss-responsive policy will be cheaper on the average, it may not necessarily be cheaper in actuality.

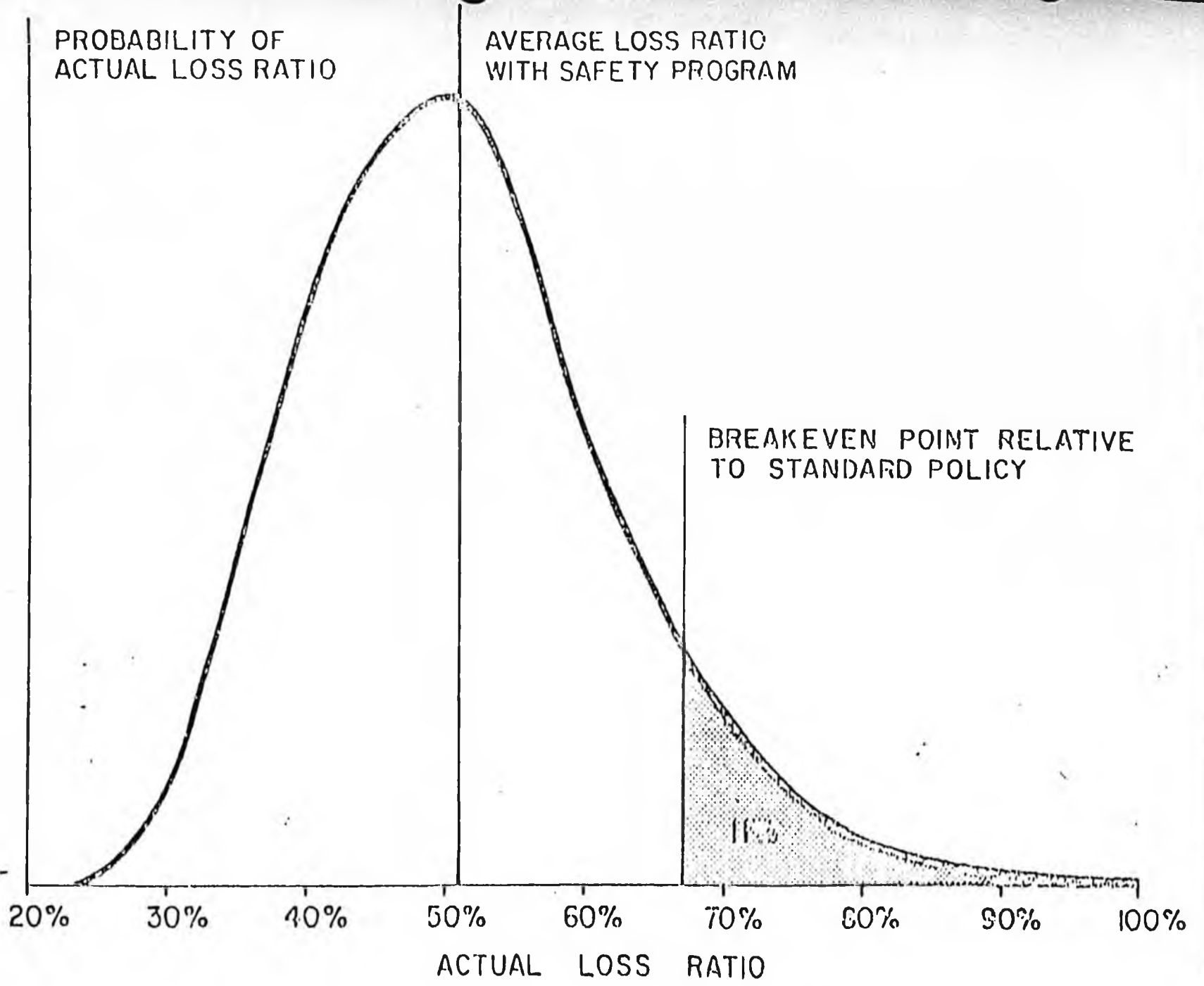
Obviously, the uncertainty in the cost of the loss-responsive policy is undesirable. It is entirely reasonable to prefer a fixed-rate policy in spite of the fact that the average cost of the retrospective policy would be cheaper. If the cost of the fixed-rate policy were varied up and down, there would be a point at which the Southern California Rapid Transit District (SCRITD) would be indifferent between the two policies. The differences between the fixed cost of the standard policy and the average cost of the retrospective policy is termed the risk premium. This risk premium is the amount of money the SCRITD will forego, on the average, in order to eliminate the risk of yet greater losses.

The concept applies directly to the determination of a proper deductible size. A large deductible will decrease the production loading cost but will increase the risk. A proper deductible level is that size which minimizes the total of production loading costs and risk premium, with the risk premium reflecting SCRITD's ability to absorb risk.

The Costs of Insurance

Most comparative studies of insurance compare only premium costs. Yet premiums are only part of the problem. To make any decision between OCIP and

FIGURE A1 - Distribution of Loss Ratio With Safety Program



conventional insurance packages, one must consider all effects on the SCRITD's cash flows. These cash flow effects include not only the direct cost of insurance to the SCRITD, but also the indirect costs reflected in the contractor bids.

Consider a contractor's behavior under a conventional insurance program. A contractor's normal mode of operation is to determine his expenses, adding on top a profit share. Thus the cost of the insurance item to the authority is the cost of the insurance itself plus the associated profit share. The size of the associated profit share is difficult to determine. The only sure method would be to obtain two bids, one with and one without the insurance item.

As such information is presently unavailable, we must make some reasonable inferences as to the contractor's behavior must be made. First, the insurance premium must be pre-paid by the contractor. Thus, he will add a certain margin to cover the cost of capital tied up. If he takes a deductible, he will have some expected amount of absorbed losses. This amount he will pass on to the District. While the premium itself is generally fixed and incurs no risk, the absorbed losses from the deductible are uncertain. To cover this risk, the contractor will tack on a margin representing his risk premium.

If the contractor requires subcontractors to purchase their own insurance, the situation is even more complicated. The subcontractors will alter their bids accordingly. In turn, the contractors add another mark-up in calculating their bids. Hence there are two profit margins added to the premium itself. Even if the contractor insures his subcontractors as part of a package, in some cases they obtain their own insurance, and thus end up with duplicate coverage.

Under an owner-controlled insurance program, the contractor does not purchase the insurance. He will still have his absorbed losses accruing from the deductible. In addition, because the OCIP insurer is not his regular insurer, he anticipates that some percentage of the claims will be declared uninsurable, leaving him liable. Again, this expectation is reflected in the bid.

SCRITD itself faces some of the same concerns. Insurance premiums in the OCIP case are an obvious expense. If SCRITD were to take on some level of deductible, then it would have some amount of absorbed losses, including handling fees passed on by the insurer to cover the costs of processing third-party claims. Because of the uncertainty resulting from the deductibles or retrospective policies, SCRITD would also incur some risk premium. Finally, there is the cost of the insurance administrator to manage the OCIP program.

The sum total of all these figures constitutes the cost of insurance. This cost includes items not normally considered in comparative studies. In addition, these items do not correspond directly to budget and bid line items. Yet, because this analysis considers total effect on cash flow, this "total" cost is the most useful value for insurance decision-making.

Determination of Insurance Premiums

An understanding of the structure of insurance premiums is essential to deciding between OCIP and conventional coverage. In the study four main insurance items are considered: workers' compensation, comprehensive general liability, builders' risk and engineers' professional liability. The forces affecting the premiums are different for each item.

Workers' Compensation -- Workers' compensation is the most structured of the four. Book rates for each trade are set by law. For the decision between OCIP and conventional coverage, the actual rates are much less important than the differential effects between the two programs. The following representative rates were used:

Tunnel Line	\$15.17/\$100
Systems	\$23.14/\$100
Stations (Cut and Cover)	\$ 7.00/\$100

These manual premiums are modified by the contractor's experience factor to obtain the standard premium. Depending on the amount of premium dollars generated, these standard premiums may be reduced up to 14 or 16 percent (depending on whether the insurer is a stock or mutual company).

A loss-responsive policy may be attractive under an OCIP. In this case, the premium is not fixed, but rather depends on the loss ratio. The premium is calculated as follows. SCRIP under any circumstances pays a basic premium (13% of the standard premium) to cover certain overhead and profit charges. Added to this are all losses plus a handling fee to cover claim investigation and adjustment (10% of the loss total). These costs are further increased by a tax multiplier of 1.04. The total workers' compensation premiums for the loss-responsive policy work out to be slightly less on the average. Reduced losses as a result of the safety program add significantly to savings.

General Liability -- General liability coverage is a wide open market for insurance carriers. Premiums depend strongly on the individual circumstances on each project. Furthermore, there are two or more layers of coverage (primary and excess) which must be marketed and quoted separately.

General liability rates depend strongly on the volume of premium dollars generated, not only from the general liability coverage itself, but from workers' compensation premiums as well. Therefore, including general liability and workers' compensation together in the same package will result in lower premiums than would marketing the general liability coverage by itself. This volume effect is quite significant.

On top of these volume effects are the effects of the fluctuating market. The peculiar incentives of insurance company economics produce a regular cycle in insurance rates. In favorable times, insurers will lower rates in order to attract premium dollars for investment. While the investment returns create an initial cash surplus, the inevitable losses produce a cash crunch. When this happens, the insurers decrease their volume, raise their rates, and attempt to quickly rebuild their cash position.

The insurance market currently appears to be in an approximately nine to ten year cycle compared to historical five-year cycles. A relative peak in premium rates should occur around 1985 or 1986. Rates for the excess layer at the peak should be about 40% higher than those at the bottom of the trough. Because the rate increases are intended to produce a quick cash recovery, there is a tendency to have larger increases on those policies generating the most premium dollars. Thus policies with small deductibles will encounter proportionately larger increases than those with high deductibles. In fact, the increases for such policies can be 50% greater than the increases on excess coverage (on a dollar-for-dollar basis).

Lastly, because general liability rates are somewhat negotiable, the potential effects of a good safety program can exert a downward influence on premiums.

Builders' Risk -- The effects on builders' risk are similar to those on general liability, but are less marked. Again the builders' risk coverage is composed of a primary and one or more excess layers.

As with general liability, builders' risk premiums depend somewhat on the volume of premium dollars. In this case, however, the rates are not coupled to premiums generated by workers' compensation or general liability coverages. Also the effect is much smaller; the rates for the smallest anticipated contracts would be approximately 40% greater than for the project as a whole.

Market conditions still play a major role. Timing is similar to the general liability case; the difference between the lowest and highest rates is also 40%. Unlike workers' compensation and general liability, however, builders' risk premiums are unaffected by any potential safety program.

APPENDIX B

DETAILED COMPARISON OF SCRID INSURANCE ALTERNATIVES

APPENDIX B. Detail Comparison of SCRFD Insurance Alternatives¹

Comparison of Base Cases

	Workers' Compensation		General Liability		Builders' Risk		Total ²	
	Conventional	OCIP	Conventional	OCIP	Conventional	OCIP	Conventional	OCIP
1 Expected Losses	0	9402.5	3055.72	241.372	6126.77	2733.31	9982.49	12457.2
2 Risk Premium	0	0	202.5	137.099	1557.25	1119.49	1754.75	3257.39
3 Handling	0	12560.5	2313.43	144.023	2190.16	4100	11503.6	16013.3
4 Total Premium	53049.9	22051	10942.4	540.26	31627.5	11119	95619.6	359102
5 Broker's Fee	0	0	0	0	0	0	0	0
6 Uninsurable Losses	0	0	0	43.4	0	19.24	0	82.64
7 Absorbed Losses	0	0	807.46	890.13	100.456	100.490	990.916	900.63
8 Risk Premium	0	0	.1206	.11669	.0204	.0204	.149	.133
9 Cancellation	0	0	0	0	0	0	0	0
10 Profit	6365.99	0	1333.09	0	3795.3	0	11474.4	0
11 Total Cost passed to SCRFD	59971.9	22051	13309.4	1391.91	36004.1	13406.7	109365.4	36929.6
12 Absorbed Losses	0	0	0	3202.27	0	4212.0	0	7515.11
13 Risk Premium	0	3640	0	116.747	0	1401.41	0	7465.65
14 Handling Cost	0	0	0	320.227	0	592.597	0	920.824
15 Total	59971.9	27699	13309.4	5410.66	36004.1	19713.5	109365.4	52031.2

¹All values in thousands of dollars.

²Total excludes engineers' professional liability insurance and insurance administrator fee.

APPENDIX C

ENGINEERS' PROFESSIONAL LIABILITY
INSURANCE COVERAGE COSTS

<u>Option</u>	<u>Estimated Component Cost¹</u>	<u>Estimated Option Total Cost¹</u>
1. All insurance placed conventionally (Limits: Primary consultants to \$50 Million; section designers to \$10 Million) ^{2,3}		\$ 38 Million
2. OCIP (except section designers)		
. Primary consultant to \$5 Million	\$ 7 Million	
. Section designers to \$50 Million ^{2,4}	\$ 24 Million	
. SCRIP, \$5 Million to \$50 Million for primary con- sultants only	<u>\$ 8 Million</u>	\$ 39 Million
3. OCIP (including section designers)		
. Primary consultant to \$5 Million	\$ 7 Million	
. Section designer to \$5 Million	\$ 7 Million	
. SCRIP, \$5 Million to \$50 Million for both	<u>\$ 16 Million</u>	\$ 30 Million
4. OCIP (except primary consultants)		
. Primary consultant to \$50 Million	\$ 24 Million	
. Section designers to \$5 Million	\$ 7 Million	
. SCRIP, \$5 Million to \$50 Million for section designers only	<u>\$ 8 Million</u>	\$ 39 Million

Option 1 is used throughout this analysis as the conventional base case, while Option 3 represents the OCIP best option. They are not strictly comparable since the conventional base uses a section designer coverage limit of \$10 Million and the OCIP uses \$50 Million. Each appears, however, to represent most likely choices for each insurance approach; equating coverage limits would increase OCIP cost advantages.

¹All costs are based on premium rate assessments supplied by Mr. James Murphy of Fred S. James Co. Estimates assume a \$ 2 Billion construction cost and a \$250 thousand deductible for engineering firms.

²It may be difficult for section designers to obtain coverage to \$50 Million.

³By increasing section designer coverage to \$50 Million an estimated cost increase to \$48 Million will occur.

⁴By lowering section designer coverage to \$10 Million a cost reduction to \$29 Million can be achieved.

APPENDIX D

EVALUATION CRITERIA FOR INSURANCE ADMINISTRATOR PROPOSALS

Appendix D consist of two major components: D.1 SAMPLE EVALUATION CRITERIA FROM OTHER SOURCES and D.2) SUGGESTED SCRTD PROFOSAL EVALUATION PROCESS.

D.1 SAMPLE EVALUATION CRITERIA FROM OTHER SOURCES

This Section contains two sets of criteria for insurance administrator proposal evaluation. The first list was used by the Mass Transit Administration (MTA) in Baltimore, Maryland, to select their insurance intermediary. A second list was solicited from Johnson & Higgins of California.

MTA PROPOSAL EVALUATION CRITERIA

<u>Criteria</u>	<u>Weight % *</u>
1. Quality and Responsiveness of Proposal	5
a. Completeness	
b. Organization & Conciseness of Material	
c. Deviations from RFP	
2. Technical Approach	10
a. Identification of Problems	
b. Reasonableness of Technical Approaches	
c. Use of Imagination	
d. Logic of Plan	
3. Managerial Approach	10
a. Organization Makeup	
b. Adequacy of Procedures	
c. Use of Resources	
d. Adequacy of Schedules	
4. General Capabilities	20
a. Experience (companies & Individuals)	
b. Reputation (quality of work, schedule, cost, degree of cooperation)	
5. Staff and Facilities	20
a. Manpower (numbers & skills)	
b. Facilities (size, type, condition)	
6. Cost Proposal	25
a. Reasonableness of Cost	
b. Reasonableness of Fee	
7. General Evaluation	5

*Weight % does not add up to 100 %.

JOHNSON & HIGGINS SUPPLIED CRITERIA

These criteria relate more to capabilities of the responding firm than to proposal evaluation.

1. Depth and professional quality of local safety, fire prevention and claims staff.
2. Regional service capabilities relative to finance plan structure, insurance marketing and insurance marketplace penetration.
3. Project management system.
4. Experience with Wrap-up insurance programs [owner-controlled insurance programs] including administration, bid specifications and on-going related services.

D.2 SUGGESTED SCRITD PROPOSAL EVALUATION PROCESS

The following presentation is modeled after the current SCRITD proposal evaluation process. It takes into account lessons learned from other transit systems using an owner-controlled insurance approach and SCRITD-specific insurance program characteristics. The weightings provided are given as ranges rather than single values; final determination of weighting values must come from SCRITD management.

D.2.1 PROPOSAL EVALUATION PROCESS

The Proposals will be evaluated as follows:

The overall evaluation process will be performed by a Proposal Review Board (PRB). The evaluation criteria are set forth at the end of this sub-section and will be the sole basis for determining the technical acceptability of proposals. The technical presentation should be specific and complete in every detail.

- A. Qualification and experience of the Director of the insurance administration function.
 - i) Does the proposed Director have direct experience in managing an owner-controlled insurance program?
 - ii) Does his/her experience include claims administration, insurance marketing and safety program administration?
 - iii) What are the general administrative capabilities of this Director?
 - iv) Does the Director's experience or educational background include significant exposure to construction or engineering disciplines?

- B. Service and Marketing Capabilities of the Sponsor Firm
 - i) Does the firm have internal capabilities for marketing coverage to potential insurance carriers?
 - ii) What is the firm's access to "off-shore" insurance markets?
 - iii) What are the service and administrative capabilities of local offices of the firm ?
 - iv) What are the service and administrative capabilities of the firm's main office ?

C. Firm Experience with Owner-controlled Insurance Program

- i) What are the numbers and sizes of owner-controlled insurance programs that the firm has supervised?
- ii) What experience does the firm have with owner-controlled insurance programs for rapid transit construction project?
- iii) What experience does the firm have in implementing owner-controlled insurance programs in California? If no direct experience, does the firm exhibit detailed knowledge of California laws applicable to structuring and implementing owner-controlled insurance programs?
- iv) If the insurance administrator is proposed as a joint venture of firms, how do the skills and experiences of the individual firms complement each other?

D. Technical Approach to SCRID's Insurance Program

- i) What insurance coverages does the respondent suggest including in the program?
- ii) What is the proposed scope of services?
- iii) What is the proposed financial plan, including reserve management?

E. Insurance Administrator Organization/Management Plan

- i) What is the insurance administrator's organization structure?
- ii) Which of the proposed scope of services items are to be performed by staff specific to the Metro Rail Project?

By regional office support? By main office support?
- iii) What are the skills and experiences of staff designated for claims administration? Safety Program Administration?

F. Other

- i) MBE Participation
- ii) Local Participation
- iii) Timing of scope of service items
- iv) Completeness of response

D.2.2. EVALUATION CRITERIA

Each element of the evaluation of criteria will be based on a rating of 1 to 10 points using the following schedule:

(1)	(2)	(3)	(4)
Evaluation Element	Numerical Rating (1-10)	Weight*	Col. 2 x Col. 3 = Weighted Rating
A. Qualifications of Director		(2.5 - 4.0)	
B. Capabilities of Firm		(2.0 - 3.0)	
C. Firm's Experience with Owner-Controlled Insurance		(0.8 - 2.0)	
D. Technical Approach		(0.5 - 1.5)	
E. Organization/Management Plan		(0.5 - 1.5)	
F. Other		(0 - 1.0)	
		<u>TOTAL</u>	

D.2.3 SELECTION

The respondents whose written proposals are rated highest by the Proposal Review Board will be asked to make oral presentations of approximately one hour to the Proposal Review Board. The Proposal Review Board will then make recommendations to the District Board of Directors. The District Board of Directors may desire to interview the top-rated respondents before authorizing the Project staff to enter into contract negotiations.

* Weights should be selected from the range such that maximum possible "Weighted Rating = 100.

APPENDIX E

SUMMARY INSURANCE COSTS
AS A FUNCTION OF CONSTRUCTION COST

APPENDIX E

<u>CONSTRUCTION COST</u>	<u>CONVENTIONAL INSUR. COST</u>	<u>OCI P COST</u>	<u>DIFFERENCE</u>	<u>SCRID DIRECT COST</u>	<u>SCRID CONTINGENCY RESERVE</u>
\$ 1,000,000,000	\$ 73,683,000	\$ 42,425,000	\$ 31,258,000	\$ 34,483,000	\$ 7,951,000
1,200,000,000	88,419,000	50,708,000	37,711,000	40,572,000	9,541,000
1,400,000,000	103,156,000	58,991,000	44,165,000	47,166,000	11,131,000
1,600,000,000	117,892,000	67,275,000	50,617,000	53,759,000	12,722,000
1,800,000,000	132,629,000	75,558,000	57,071,000	60,353,000	14,312,000
2,000,000,000 [BASE]	147,365,000	83,841,000	63,524,000	66,947,000	15,902,000
2,200,000,000	162,102,000	92,124,000	69,978,000	73,541,000	17,492,000

SUMMARY INSURANCE COSTS AS A FUNCTION OF CONSTRUCTION COST

A SPECIAL REVIEW OF THE
ALASKA POWER AUTHORITY
INSURANCE PROGRAMS
ADMINISTERED THROUGH THE
ALASKA POWER AUTHORITY AND THE
DEPARTMENT OF ADMINISTRATION
DIVISION OF RISK MANAGEMENT

June 29, 1982

Chairman, Alaska Power Authority

Chuck Conway

Commissioner, Department of
Administration

Carole J. Burger

STATE OF ALASKA

AUDIT DIVISION
POUCH W—ALASKA OFFICE BUILDING

THE LEGISLATURE

BUDGET AND AUDIT COMMITTEE

JUNEAU, ALASKA 99811

June 29, 1982

Members of the
Legislative Budget and Audit Committee:

In accordance with the provisions of Title 24 of the Alaska Statutes, the attached report is submitted for your review:

A SPECIAL REVIEW OF THE
ALASKA POWER AUTHORITY
INSURANCE PROGRAMS
ADMINISTERED THROUGH THE
ALASKA POWER AUTHORITY AND THE
DEPARTMENT OF ADMINISTRATION
DIVISION OF RISK MANAGEMENT

June 29, 1982



Gerald L. Wilkerson, CPA
Legislative Auditor
Division of Legislative Audit

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PURPOSE OF THE REVIEW

In accordance with the provisions of Title 24 of the Alaska Statutes and a special request of the Legislative Budget and Audit Committee, we have reviewed certain issues relating to an insurance "wrap-up" program for Alaska Power Authority construction projects. Our review encompassed activities of the Alaska Power Authority (APA) and the Department of Administration, Division of Risk Management, as well as those of insurance brokers and agents handling APA accounts.

BACKGROUND

In the Spring of 1981, legislation was enacted that broadened the scope of APA's authority and responsibility for administering Alaska's energy program. APA became directly involved in the construction and acquisition of power projects throughout the State.

The first construction project to come on line was the Tye Lake hydroelectric project. This project, located approximately 40 miles southeast of Wrangell, was to be constructed in three phases. Bids for Phase I were solicited in early June 1981, with construction scheduled to begin the following October.

The Request for Proposal (RFP) for Tye Lake contained generally standard wording in which the burden for purchasing and maintaining adequate insurance was placed on the contractor. Simultaneous to the Tye Lake bid process, APA also sought advice from the Division of Risk Management about the insurance requirements and liability ramifications of APA contracts in general. The Division of Risk Management in turn consulted with the State's major insurance broker, Marsh & McLennan Inc. During July 1981, a series of discussions and correspondence ensued among APA, Risk Management, Marsh & McLennan Inc. and various consultants, which ultimately resulted in a decision to substitute an owner provided insurance program for contractor provided insurance on the Tye Lake project. That is, rather than requiring the contractor to purchase insurance and to see that his sub-contractors do likewise, the owner (APA) would "wrap-up" all parties and exposures into a comprehensive safety and insurance program.

Correspondence between Marsh & McLennan Inc. and APA indicates that the decision to employ a wrap-up program for Tye Lake was reached during the latter part of July. Bid openings were scheduled for August 11, 1981. Given the time constraints, APA elected to have contractors submit bids with insurance costs included, as specified by the RFP. Upon the award, APA would then determine whether the contractor would agree to an owner provided insurance program and, if so, would negotiate an amount to back out of his bid.

Bids were opened as scheduled on August 11, 1981. Proposals were evaluated and the contract eventually awarded on September 25 to the joint venture of Southeast Drilling Co., Inc. - Harrison Western Corp. (SE-HW) for a bid of \$44,952,000. SE-HW subsequently agreed to owner provided insurance, and a change order was signed October 20 reducing the contract amount by \$1,798,867.

On October 28, 1981, subscription policies effective October 1 for Phase I of the Tyee Lake project were issued by the two firms that handle the State's master insurance policies: Marsh & McLennan Inc. and Corroon & Black/Dawson & Co., Inc. During November and December, the brokers and the Division of Risk Management worked out details on how to structure and administer the wrap-up program. This involved arranging for claims adjusting, safety consulting, actuarial and related services, as well as negotiating with underwriters for insurance placements. In addition, the two brokerage firms worked out internal agreements on how to jointly handle the APA account.

The contract between APA and the brokers to provide the above services was not finalized until December 22, 1981. This contract, backdated to October 1, 1981, provides for APA to use Risk Management as a consultant for risk management services, and for Marsh & McLennan Inc. and Corroon & Black/Dawson & Co., Inc., to provide for specified services necessary to administer the Alaska Power Construction Program (APCOP). Contract terms are stated in general language, but the appendix on consideration clearly limits the contractual agreement to the SE-HW portion of the Tyee Lake project. Consideration for this contract was to be \$1,790,000, but a premium discount of \$100,000 was subsequently applied. First payment on the contract in the amount of \$540,000 was made December 23, 1981.

ISSUES AND ALLEGATIONS

During the Spring of 1982, several issues and allegations were raised about the series of events outlined in the preceding paragraphs. Various members of the Legislature, representative from interested professional groups, and State administrators questioned whether owner "wrap-up" was an appropriate or allowable insurance method for State agencies. Specific allegations surfaced regarding the procedures for bidding and awarding the Tyee Lake construction and insurance contracts, and the brokers' and Division of Risk Management's administration of the APA insurance programs.

We have not included in this report a general discussion of the pros and cons of wrap-up insurance. This issue was the subject of considerable debate during the last session of the Legislature and resulted in the passage of SB 831, which prohibited State agencies from providing insurance to contractors awarded State construction projects. SB 831 was vetoed by the Governor because he did "not find this prohibition in the best interests of the State". Whether or not this legislation is pursued is a matter of legislative and executive decision during the next session.

We have, however, examined the various allegations and legal issues that have been raised. A discussion of each issue and our findings thereon follow:

A. Contractual Procedures - Tyee Lake Construction Contract

No allegations have been raised and we found no improprieties on the bidding and preliminary award of the Tyee Lake - Phase I contract to SE-HW. Allegations have been raised, however, that SE-HW failed to provide proof of adequate insurance as required by RFF, and that as a result a change order was issued wherein APA would provide insurance instead.

We found that the insurance provided by SE-HW was inadequate, but that this was due to misunderstanding rather than the fact that SE-HW was uninsurable. The chronology of events is outlined below:

09/10/81 APA Board approves contract award to SE-HW.

09/11/-- Negotiations begin between SE-HW and Division of Risk Management on amount of bid attributable to insurance. Dates uncertain, but no indication that negotiations pre-date Board approval. APA copied on at least one related letter dated 09/21/81.

- 09/15/81 Contract award challenged by Pacific Ventures, a lower bidder rejected because proposal did not conform to RFP. Temporary restraining order placed.
- 09/25/81 Temporary restraining order lifted. Notice of Award sent to SE-HW, subject to certain requirements including proof of adequate insurance. This letter signed by same APA individual involved in earlier insurance discussions with Marsh & McLennan Inc. and Risk Management, and copied on 09/21/81 letter regarding cost of contractor insurance.
- 10/08/81 SE-HW responds to Notice of Award, signs contract, and supplies performance bonds and certificates of insurance.
- 10/16/81 APA acknowledges receipt of signed contract but notifies SE-HW that performance bonds deficient and insurance inadequate. Letter to SE-HW states: "Pursuant to advice of the State Division of Risk Management, the Alaska Power Authority proposes to provide a wrap-up insurance program A change order has been prepared to effect these modifications" SE-HW given option of agreeing to change order or supplying evidence of adequate insurance.
- 10/20/81 Change Order No. 1 substituting owner provided insurance for contractor provided insurance and decreasing contract by \$1,798,367 signed.
- 10/20/81 Notice to Proceed issued.

From discussions we have held with involved parties, it appears that by the time SE-HW responded to the 09/25/81 tentative Notice of Award, an understanding had been reached that APA would be providing insurance coverage and thus little attention was given to evidences of insurance. There is no indication that SE-HW was uninsurable.

There is some question as to whether Risk Management exceeded its authority by dealing directly with the contractor without APA's knowledge and before APA had officially proposed the idea of owner provided insurance. We have received conflicting information about this. Most likely, this was a case of bad communication both within APA and between APA and Risk Management.

B. Contractual Procedures - APA Brokerage Contracts

To date, all APA insurance reviews or brokerage services have been performed by Marsh & McLennan Inc. and Corroon & Black/Dawson & Co., Inc. (A schedule of APA contracts with and payments to the brokers is presented in Appendix A). This has generated considerable controversy, with specific questions raised about:

- ① Meetings of Risk Management, APA, and Marsh & McLennan Inc. prior to Tye Lake brokerage contract.
- ② Awarding of Tye Lake contract to Marsh & McLennan Inc. and Corroon & Black/Dawson & Co., Inc. without competitive bid.
- ③ Expectations by brokers that Tye Lake contract would be expanded to future APA construction projects.
- ④ Expansion of broker's involvement to cover completed or acquired projects.
- ⑤ Awarding of APA insurance review contract to brokers without competitive bid.

Each of these areas is discussed below.

Pre-contract meetings: It is unclear when wrap-up discussions first took place and who it was that first proposed the concept. Our review indicates, however, that wrap-up on Tye Lake was not explicitly agreed to until late July, when representatives from APA, Risk Management, and Marsh & McLennan Inc. met in Marsh & McLennan's Seattle offices. There is no evidence to suggest that there was anything conspiratorial about this meeting, or that the decision by APA and Risk Management to utilize owner provided insurance was anything more than an attempt to explore economical insurance alternatives. Undoubtedly, Marsh & McLennan Inc. wished to secure the State's business, but as a profit making firm this is only normal.

Awarding of Tye Lake contract without competition: In our July 1980, performance review of the Division of Risk Management, we criticized the Division for not utilizing competitive procedures in its selection of brokers. During FY'81, the Division went through an extensive broker selection process, and in May 1981, Marsh & McLennan Inc. and Corroon & Black/Dawson & Co., Inc., were contracted with to provide risk management and insurance programs for the State. When APA sought advice from Risk Management about the insurance ramifications of its newly expanded role, then, it was reasonable that Risk Management in turn sought advice from its primary consultant, Marsh & McLennan Inc.

The question is whether it was also reasonable to contract with Marsh & McLennan Inc. for the Tyee Lake wrap-up. In the first place, if a consultant believes he will be awarded the contract for any services he recommends, then he is more likely to recommend that those services are necessary. Secondly, it is State policy to utilize competitive selection procedures, and no attempt was made to do so in this case.

It is our belief that APA and Risk Management tried to objectively evaluate the wrap-up option, and decided that it was in the best economic interests of the State. The fact that the time frame for Tyee Lake was too short to go through a broker selection process was not considered a major problem. This had just been done for the State's other coverages, and it was reasoned that that selection process would satisfy similar requirements for Tyee Lake. Therefore, it was decided to utilize the State's current brokers.

While we do not question APA or Risk Management's motives behind this decision, we do think they acted in haste. If there was insufficient time to go through a broker selection for Tyee Lake or to look into the legal questions raised later in this report, then it would perhaps have been better to utilize contractor provided insurance on Tyee Lake and reconsider wrap-up for future projects instead.

Expectations of future APA wrap-up contracts: Marsh & McLennan Inc. correspondence indicates that the firm was vying for and in fact expected to provide brokerage services on future APA wrap-up programs. In addition, the contract between APA and the brokers was worded in such a way that future projects could simply be appended to it. However, the contract as signed December 22, 1981, is clearly limited to Tyee Lake - Phase I (with the implicit understanding that Phases II and III would be added), and APA and Risk Management memos demonstrate that the insurance alternatives for other APA construction projects would be decided on a case-by-case basis. This intention is also evidenced by testimony of APA staff at the October 7, 1981, APA Board meeting.

We cannot verify whether APA and Risk Management would in fact have gone through a broker selection process on future projects, since the APA Board opted that contractor provided insurance be used on the only other construction project to date, Terror Lake. Certainly no procedures for broker selection were begun prior to the Board's April 15, 1982, Terror Lake decision, though this may be attributable to the controversy and questionable future of State agency wrap-ups at that point in time.

Expansion to cover completed or acquired projects: The issue of whether or not to use owner provided insurance applies only to construction projects. Another issue is how best to insure completed or acquired projects, the immediate cases in point being Solomon Gulch and Swan Lake.

The Division of Risk Management has taken the stand that, as State owned property, completed projects such as Solomon Gulch automatically become a Risk Management responsibility. As is done for other State owned property, Risk Management would negotiate the cost and conditions of coverage and bill APA accordingly. Furthermore, it is Risk Management's responsibility to determine whether coverage in place on acquisitions such as Swan Lake adequately protects the State, and, if not, to cover exposures. In both of the above instances, the method for providing insurance has been to fold the projects into the State's master insurance programs which are brokered through Marsh & McLennan Inc. and Corroon & Black/Dawson & Co., Inc. The brokers have adopted the acronym "APOP" for these projects, which stands for Alaska Power Operations Program.

Vague allegations have been raised about the nature and extent of APOP, and that it is being thrust upon the entities from which projects are being acquired. We found no substance to these allegations, and to our knowledge APOP is no more than as described above. In addition, until or unless a separate risk management program is developed for APA, we concur with the Division of Risk Management's judgment on how to handle completed or acquired projects.

Awarding of insurance review contract: APA also contracted with Marsh & McLennan Inc. and Corroon & Black/Dawson & Co., Inc., to perform an insurance review of all APA contracts. This agreement, signed the same day as the APCOP - Tye Lake contract, involved an evaluation of contract insurance language and evidences of insurance, establishment of on-going contract review procedures, and other related services. Contract consideration was to be for services rendered, not to exceed \$40,000.

Results of this contract demonstrate that APA contracts generally did not have adequate insurance language and that APA's exposures were greater than intended. However, the fact that there was evidently a legitimate need for this contract does not justify its being awarded without competitive bids. Nor was there any particular time pressure, as there was with the APCOP - Tye Lake contract, that would preclude normal competitive bid procedures.

C. Administration of APCOP - Tyee Lake Contract

Several questions have also been raised about the administration of the APCOP - Tyee Lake contract; that is, how the brokers and the Division of Risk Management are performing those services they were contracted with to provide. These questions are discussed below.

One question is whether the Workers' Compensation (WC) reserve established for State employees is commingled with or has in fact been used for Tyee Lake employees. The APCOP - Tyee Lake and State WC reserves are not commingled, and as of July 1, 1982, they will also be handled by different adjusters. Prior to the establishment of an APCOP reserve account, however, a Tyee Lake employee was injured and \$9,417 was paid out of the State WC reserve to cover related claims. The State's reserve was subsequently reimbursed upon establishment of the APCOP WC reserve account in January 1982.

Another question has to do with whether the brokers and/or Risk Management have conducted business using "secret" bank accounts. We have found references to three bank accounts. The first was established with First Interstate Bank in Seattle, and was used by the brokers for paying all bills related to their APCOP account. This account was subsequently closed and replaced with an account with the National Bank of Alaska. A third account, also with the National Bank of Alaska, is a depository account used by Northern Adjusters for paying APCOP Workers' Compensation claims. All three of these accounts are utilized internally by the brokers or their sub-contractors to perform services necessary to fulfilling the APCOP contract. Risk Management neither deposits nor withdraws funds from these accounts. Therefore, these accounts are not subject to the requirement that as State accounts they be reported to the Department of Revenue.

Questions have also been raised about the propriety of payments from the APCOP bank accounts, particularly for such things as lunches, dinners, or drinks. We think these questions are moot. Marsh & McLennan Inc. and Corroon & Black/Dawson & Co., Inc., are being paid a fixed sum, a portion of which is attributable to brokerage fees. In general, it is not within our control to dictate to the brokers and their respective managements how those fees may be used.

Another issue is whether State competitive bid procedures have been bypassed by contracting with brokers who then in turn sub-contract with other firms to perform certain services. Particular questions have been raised about the sub-contracts for claims adjusting. We think

that while State procedures may be bypassed, there is very little incentive on the brokers' part for not employing competitive procedures of their own. As noted before, the brokers are being paid a fixed sum to perform certain services. It is certainly not in their best interests to over-pay sub-contractors. As far as the claims adjusting sub-contract is concerned, State competitive procedures were not bypassed. The contract RFP and award process was administered through the Division of Risk Management along with the claims adjustment contracts for other State accounts, and met standards for objective and competitive review.

Two final questions, which underlie all the above, are what APA is buying in its APCOP - Tyee Lake contract, and whether it is less expensive than contractor provided insurance would have been. A budget for all phases of the Tyee Lake wrap-up program is being prepared but has not been finalized. Once the budget is established, the Division of Risk Management has informed us that in its capacity as risk management consultant for APA, it will arrange for audits of APCOP expenses and actuarial reviews of loss reserves.

It is also too early to determine if wrap-up for Tyee Lake will be cost effective. Tyee Lake - Phase I was bid with insurance, with \$1,798,867 subsequently backed out. The APCOP Phase I insurance contract cost, after premium discount, \$1,690,000. Therefore, there is an immediate apparent cost savings of \$198,867. Since the other Tyee Lake contracts were bid net of insurance, no easy "upfront" numbers are available, and it is beyond the scope of this report to project them. A schedule of claims as of May 31, 1982, is presented in Appendix B, but the total insurance costs of Tyee Lake will not be known for several years.

D. Legal Issues

In addition to the legal issues implied in the matters already discussed, several specific legal questions have been raised. These include:

- ① Is the State insured on Tyee Lake and has it been from the start?
- ② Do wrap-ups by State agencies violate existing law?
- ③ Is the State self-insuring Workers' Compensation for Tyee Lake, and if so, is this in compliance with law?

Each question is discussed below.

Is the State insured on Tyee Lake and has it been from the start? The basis for this question is two-fold. First, while work on the Tyee Lake project began in November 1981, the insurance contract between APA and the broker was not signed until December 22, 1981. Second, while APA was provided with "subscription policies" by the brokers in October 1981, these policies were not agreed to by underwriters until, in some cases, months later.

From our review of legal opinions and documents, it appears that the State is and has been covered on Tyee Lake, if for no other reason than that it has clear recourse against the brokers themselves. This is established through letters of intent and brokerage warranties in which the brokers certify that they have placed insurance as specified in the "subscription policies." Marsh & McLennan Inc. and Corroon & Black/Dawson & Co., Inc., it should be noted, have assets valued far in excess of dollars being insured under the APCOP - Tyee Lake contract. In addition, the State's master insurance contract is broadly worded and would include Tyee Lake exposures.

Do wrap-ups by State agencies violate existing law? We have reviewed several legal opinions and discussed this question with representatives of the Attorney General's Office. To our knowledge there is no Alaska law or body of laws that generally prohibit wrap-up insurance programs by private or public entities.

Is the State self-insuring Workers' Compensation for Tyee Lake, and if so, is this in compliance with law? This is the primary legal question on the owner provided insurance program that is in place for Tyee Lake, and to date it is unresolved. Through our discussions with the two agencies who have jurisdiction over Workers' Compensation - the Division of Workers' Compensation and the Division of Insurance - we have identified the key issues to be:

1. All employers must provide Workers' Compensation coverage for their employees. This may be done one of two ways: The employer may purchase a WC policy through an insurer approved by the Division of Insurance, or may be granted a self-insurance certificate by the Workers' Compensation Board.

2. The WC coverage for Tyee Lake contractors and their employees is provided under a policy by an approved insurer, but is, in the end, self-insured by the State. This is illustrated as follows:
 - ① APA contracts with brokers for APCOP services.
 - ② Brokers contract with Pacific Marine Insurance Co., an approved Alaska insurer.
 - ③ Pacific Marine issues policy, makes necessary filings with Division of Insurance, WC Board.
 - ④ Pacific Marine, in effect, reinsures total liability back through APCOP brokers.
 - ⑤ Brokers establish loss reserve fund from which Tyee Lake WC claims, up to \$300,000 per occurrence, are paid (insurance purchased for excess coverage); amount of fund comes out of lump sums paid by APA to brokers. The final amount to be set aside for WC reserves is still being negotiated.
 - ⑥ Brokers receive assurance from Division of Risk Management that if actual losses exceed loss reserves, "the State loss reserve fund would be made available to pay losses after exhaustion of the APCOP loss reserves."
3. The question now becomes, by what authority can the State self-insure Tyee Lake employees? The State of Alaska has been granted a self-insurance certificate and self-insures Workers' Compensation for State employees. According to the Workers' Compensation Board, however, this certificate does not allow the State to insure non-State employees, such as the contractors and their employees on Tyee Lake.
4. A related question is whether the State is, in effect, acting as an insurance company.
5. Finally, a significant question exists as to where the funds would come from if the WC loss reserves established for Tyee Lake claims prove to be inadequate. This question has not been adequately considered, let alone answered.

One scenario is that these excess losses would be covered under the State's aggregate of excess coverage. Under this insurance, virtually all State losses above a given aggregate are covered. For the year ended May 15, 1981, the aggregate base was \$7,500,000; for the current period, the base is reduced to \$7,000,000. Actuarial estimates indicate that State losses will exceed the aggregate for the year just ended, and the trend of losses has been to increase each year.

A second scenario is that State losses will not exceed the aggregate, and therefore the excess losses on Tye Lake will have to be absorbed elsewhere. It is unclear how this would be done.

A third scenario is that losses on Tye Lake will be less than the reserves. In this event, funds would be returned to APA.

CONCLUSIONS AND RECOMMENDATIONS

In general, we found the allegations that APA, Risk Management, or brokers/agents acted improperly to be unsubstantiated. We do believe, however, that APA, relying heavily on the advice of Risk Management, acted hastily in its decision to employ owner provided insurance for Tyee Lake, even though delay would have precluded this option. By so doing, they did not adequately consider the legal ramifications or impact of wrap-up as viewed by other State insurance agencies, and entered into a major contract without utilizing competitive procedures. In any event, while time constraints may arguably support the Tyee Lake sole source contract, they do not justify the awarding of a separate \$40,000 contract by APA to the brokers without competitive bid.

In conjunction with the Tyee Lake wrap-up program and in anticipation of this concept being applied to future APA projects, we make the following recommendations:

1. The Divisions of Risk Management, Insurance, and Workers' Compensation should discuss, in a formal setting if necessary, the Workers' Compensation and other insurance questions that have been raised. Using a State-funded loss reserve for non-State employees is clearly a divisive and unresolved issue. It is incumbent on these agencies to clarify what is a very gray area.
2. APA and Risk Management should monitor and evaluate the Tyee Lake wrap-up program in order that some comparative data be available for future projects. This would entail audits and actuarial reviews of payments and loss reserves, as well as an independent evaluation of owner vs. contractor provided insurance.
3. APA should decide whether or not to utilize owner provided insurance far enough in advance to incorporate this into the contractor RFP. For example, contractors could submit bids with insurance, without insurance, or both with and without insurance and then be measured against some pre-determined criteria.

In addition, sufficient time should be allowed to go through a broker selection process on construction projects where APA opts for owner provided insurance.

4. APA and Risk Management should clarify their respective responsibilities over APA projects, whether under construction or completed. In December 1981, the two agencies signed a memorandum of understanding outlining the role each played in providing risk management

services for APA. However, this "understanding" has become somewhat strained. For example, brokers have been given conflicting signals over certain coverages, and APA is even considering employing its own risk manager.

We would hope that APA's decision will be based on economics and need, and will consider all those issues inherent in wrap-up regardless of who administers it. In any event, until and unless APA establishes its own risk management program, the existing memorandum of understanding should be followed to ensure comprehensive and continuous coverage on APA projects.

APPENDIX A

SCHEDULE OF APA CONTRACTS WITH
AND PAYMENTS TO BROKERS
As of June 15, 1982

<u>Contract Encumbrance Number</u>	<u>Description</u>	<u>Contract Amount</u>	<u>Payments at 06/15/82</u>
CC082307	Alaska Power Construction Program (APCOP) - Tyee Lake, Phase I ¹	\$1,790,000	\$540,000 ²
CC082304	APA Contract Insurance Review	\$ 40,000	\$ 20,000

1 To date, no provisions for Tyee Lake - Phases II-III have been appended to the APCOP contract. These phases were bid net of insurance, but how and through whom APA will provide insurance has not been finalized.

2 Scheduled payments are:

10/01/81	\$ 640,000	
Less Premium Discount	<u>(100,000)</u>	
		\$ 540,000
03/01/82		580,000
02/01/33		<u>570,000</u>
		<u>\$1,690,000</u>

APPENDIX B

TYEE LAKE LOSSES AND PAYMENTS
As of May 31, 1982

<u>Loss Type</u>	<u>Estimated Loss Incurred</u>	<u>Loss Payments</u>
Workers' Compensation ¹	\$111,846	\$33,108
Property	<u>20,000</u>	<u>-0-</u>
	<u>\$131,846</u>	<u>\$33,108</u>

1 As of May 31, 1982, 14 Workers' Compensation claims had been submitted for adjustment. Largest estimated loss for a single claim was \$25,000.

DEPARTMENT OF ADMINISTRATION

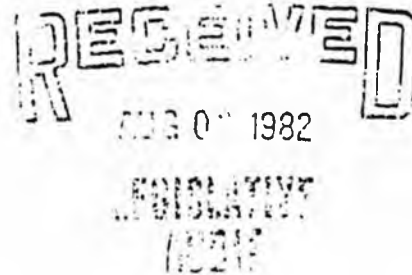
OFFICE OF THE COMMISSIONER

POUCH C

JUNEAU, ALASKA 99811

August 2, 1982

Mr. Gerald Wilkerson, CPA
Legislative Auditor
Division of Legislative Audit
Legislative Budget and Audit Committee
Pouch W
Juneau, AK 99811



Re: Response to a Special Review of the Alaska Power Authority Insurance Programs Administered Through the Alaska Power Authority and the Department of Administration, Division of Risk Management, Dated June 29, 1982

The decision to recommend the Wrap-up program to the Alaska Power Authority (APA) was completely the responsibility of the Division of Risk Management. Wrap-up insurance has been the normal way to cover large construction projects for the last 30 years. This is not to imply that wrap-ups are not controversial because they are. This controversy, however, does not deter from the cost effective nature of wrap-ups. There are three valid reasons for not considering wrap-up insurance:

1. The construction project is not large enough (50 million or greater);
2. The Risk Management Program of the owner or contractor is not sophisticated enough to adequately coordinate the required services.
3. The political considerations which have resulted in several states passing restrictive legislation prohibiting wrap-ups.

Prior to recommending wrap-up to the APA, meetings were held between Risk Management and the Division of Insurance. Even though wrap-ups are acceptable in Alaska, the Division of Insurance is responsible for setting up guidelines and if required, adopting regulations. After reviewing the guidelines and discussing Risk Management's program, the Division of Insurance decided to not adopt regulations. Most of the questions regarding wrap-ups had been answered

several years ago when Alyeska Pipeline Co. was given approval to provide an owner wrap-up for the Taps Construction.

Before answering the individual recommendations, we would like to make two observations: First, the atmosphere surrounding the initiation of this audit was inflammatory in that there were a considerable number of rancorous accusations made against the Division of Risk Management, APA and the APCOP brokers. We believe that the auditors were able to cut through the periphery issues and produce a professional report which is notable for its objectivity.

Second, many of the legal issues on closer examination did not have substance. In order to completely counteract the questions, we had legal research done on several of these legal questions and they were not found to be meritorious.

The conclusion that there were no improprieties are concurred with. The decision to use the State's recently appointed brokers for the first wrap-up program is justified from a Risk Management standpoint and the brokers who participated in the RFP understood it to be for Risk Management services over a three to five year period.

The \$40,000 contract review program has received more publicity than it warrants. This contract review had two facets: 1. To determine what existing liabilities were outstanding, and to provide coverage if needed. Since the State's brokers were responsible for providing the coverage ex commission, there was no logical way to select another contractor. Also, there was a sense of urgency due to the pending acquisition of the Solomon Gulch and Swan Lake projects and the need to become immediately involved in the contract negotiations between the APA and the project attorneys.

Recommendations

1. The Divisions of Risk Management, Insurance, and Workers' Compensation should discuss, in a formal setting if necessary, the Workers' Compensation and other insurance questions that have been raised. Using a State-funded loss reserve for non-State employees is clearly a divisive and unresolved issue. It is incumbent on these agencies to clarify what is a very gray area.

Agreed. Attached is a memo (Appendix I) which has been sent to both the Division of Insurance and the Workers' Compensation Board which should resolve the problem. If not, we are prepared to meet with appropriate personnel to answer any questions.

2. APA and Risk Management should monitor and evaluate the Tye Lake wrap-up program in order that some comparative data be available for future

projects. This would entail audits and actuarial reviews of payments and loss reserves, as well as an independent evaluation of owner vs. contractor provided insurance.

Agreed. This recommendation is an excellent one and one in which Risk Management is quite interested in pursuing. We believe that the Tye Program will prove to be extremely cost effective and will also have a considerably better safety record than similar projects of this type. In addition, we believe that we are using a maximum of Alaska Risk Management contractors on the Program and that we are making it available for the smaller Alaska contractor to participate by furnishing raw coverage insurance that the smaller contractor might not be able to purchase on its own. See Appendix II and III for allocation of costs.

3. APA should decide whether or not to utilize owner provided insurance far enough in advance to incorporate this into the contractor RFP. For example, contractors could submit bids with insurance, without insurance, or both with and without insurance and then be measured against some pre-determined criteria.

In addition, sufficient time should be allowed to go through a broker selection process on construction projects where APA opts for owner provided insurance.

Agreed. Risk Management was limited by the decision process that the APA and its board of directors were operating under. There is no question but that the insurance language should be incorporated prior to the bids being put out. In addition, we would recommend that all insurance specifications include the owner wrap-up language and that after the bid is let that the contractor's firm be given the option of proposing its price to write the coverage. In this way a direct comparison of advantages of owner or contractor wrap-up could be made and a decision made at that time.

4. APA and Risk Management should clarify their respective responsibilities over APA projects, whether under construction or completed. In December, 1981, the two agencies signed a memorandum of understanding outlining the role each played in providing risk management services for APA. However, this "understanding" has become somewhat strained. For example, brokers have been given conflicting signals over certain coverages, and APA is even considering employing its own risk manager.

We would hope that APA's decision will be based on economics and need, and will consider all those issues inherent to wrap-up regardless of who

August 2, 1982


administers it. In any event, until and unless APA establishes its own risk management program, the existing memorandum of understanding should be followed to ensure comprehensive and continuous coverage on APA projects.

Agreed. There have been meetings with the APA and Risk Management since the pressure of the legislative activity has been reduced. The result of the last meeting was that Risk Management would take over the administration of the contract between the APA and the APCOP brokers. In this way the APA would not be responsible for understanding and administering a Risk Management Program but instead, will pass this responsibility to Risk Management pending any decision to set up their own program. In this regard there is presently a Request for Proposal (RFP) for a Risk Management consultant to study the whole wrap-up insurance question for the APA.

Although it is difficult to quantify the exact savings to the State, a Federal government study has verified savings of 30-40 percent of conventional insurance costs. This relates to two percent of construction costs. In addition, since the State holds on to the loss reserves, an additional one per cent of costs is realized through investment earnings. If the present construction schedule of the APA is realized, the savings would amount to \$192,600,000.

It is important that the controversy surrounding this program not obscure the potential savings to the State, which would be lost if the program were terminated.

Sincerely,


Carole J. Burger
Commissioner

CB/JH/jbh
3/0802-02/RM2

MEMORANDUM

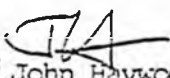
State of Alaska

TO: Ms. Jackie McClintock
Director
Division of Workers' Compensation
Department of Labor

DATE: August 2, 1982

FILE NO:

TELEPHONE NO: 465-2180

FROM:  John Haywood
Director
Division of Risk Management
Department of Administration

SUBJECT: Tyee Lake Wrap-up
Program Insurance

There have been several questions raised as to the details of the Workers' Compensation Insurance for the Tyee Lake Wrap-up Program. There are many ways in which large accounts structure their workers' compensation programs and some are more controversial than others.

Due to the unusual level of interest in this program, it was Risk Management's decision with the concurrence of Marsh and McLennan and Pacific Marine Insurance Company to provide one of the conventional forms of coverage.

Consequently, we have negotiated a Retrospective Rating Plan "D" combined Workers' Compensation and General Liability. This is an incurred loss retro program which puts it in the mainstream of insurance programs.

JH/je
5/0802-06/FM1

APPENDIX II
TYEE PREMIUM ALLOCATION

TOTALS	I - Tunnel & Powerhouse	=	\$1,690,000
	II - Submarine Cable	=	598,000
	III - Transmission Line	=	1,496,602
	TOTAL		<u>\$3,784,602</u>

PHASE I - Powerhouse & Tunnel Contract - \$1,690,000 - Total Premium

1. General Liability & Workers' Compensation - 2 yrs	=	974,000
2. Inland & Marine Cargo	=	303,000
3. Non-owned Aviation	=	61,000
4. C.O.C. - Builders Risk	=	181,000
5. Excess Insurance	=	171,000
		<u>\$1,690,000</u>

PHASE II - Submarine Cable Contract - \$598,000 - Total Premium

1. General Liability & Workers' Compensation	=	179,400
2. Non-owned Aviations	=	32,500
3. C.O.C. - Builders Risk	=	29,900
4. Excess Insurance	=	63,980
5. Marine Insurance	=	292,220
		<u>\$ 598,000</u>

PHASE III - Transmission Line Contract - \$1,496,602 - Total Premium

1. General Liability & Workers' Compensation	=	1,174,327
2. C.O.C. - Builders Risk	=	162,100
3. Excess Insurance	=	160,130
		<u>\$1,496,602</u>

APPENDIX III
TYEE WRAP-UP BUDGET
August 22, 1982

PHASE	I	-	1,690,000
	II	-	598,000
	III	-	1,496,602
TOTAL		-	3,784,602

PREMIUM	1,242,000
RETENTION	1,894,000
ADMIN. EXP.	82,000
BROKER FEE	119,000
EXTRAORDINARY TRAVEL/LEGAL	40,000
SAFETY	78,000
CLAIMS ADJ	60,000
ATTORNEYS	15,000
CONTINGENCY	207,602
PRESS RELEASE	5,000
INSURANCE LIASON	20,000
CPA/ACTUARIAL	10,000
CLAIMS MANAGEMENT	12,000
TOTAL	3,784,602

ALASKA POWER AUTHORITY

334 WEST 5th AVENUE - ANCHORAGE, ALASKA 99501

Phone: (907) 277-7641
(907) 276-0001

August 1982
RECEIVED
AUG 05 1982
LEGISLATIVE
AUDIT

Mr. Gerald Wilkerson, CPA
Budget and Audit Committee
Legislative Auditor
Division of Legislative Audit
Pouch W
State Office Building
Juneau, Alaska 99811

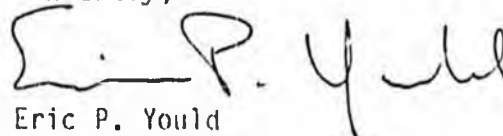
Subject: Response to Preliminary Audit Report
Alaska Power Authority Insurance Programs

Dear Mr. Wilkerson:

Attached is our response to the Preliminary Audit of June 29, 1982. Mr. Conway requested that I respond to you directly. The Alaska Power Authority has expressed its agreement with each of the Audit Report Recommendations and has initiated action to implement the recommendations.

The Power Authority is currently selecting an Insurance Consultant to provide professional services on insurance matters. This action will increase our expertise and management of insurance related issues and thereby mitigate the administrative concerns addressed in the Legislative audit.

Sincerely,



Eric P. Yould
Executive Director

Attachment: as stated

ALASKA POWER AUTHORITY

RECOMMENDATION ONE:

1. The Divisions of Risk Management, Insurance, and Workers' Compensation should discuss, in a formal setting if necessary, the Workers' Compensation and other insurance questions that have been raised. Using a State-funded loss reserve for non-State employees is clearly a divisive and unresolved issue. It is incumbent on these agencies what is a very gray area.

POWER AUTHORITY RESPONSE:

This recommendation is not addressed to the Alaska Power Authority.

RECOMMENDATION TWO:

2. Power Authority and Risk Management should monitor and evaluate the Tyee Lake wrap-up program in order that some comparative data be available for future projects. This would entail audits and actuarial reviews of payments and loss reserves, as well as an independent evaluation of owner vs. contractor provided insurance.

POWER AUTHORITY RESPONSE:

The first part of this recommendation addresses the monitoring and evaluation of the Tyee Lake wrap-up program and refers to an audit program. The Power Authority agrees that this is a necessary and beneficial action since the Tyee wrap-up program is the Power Authority's first owner's provided insurance program.

In order to implement this recommendation, the Power Authority has issued an RFP for an Insurance Consultant. An evaluation of the Tyee wrap-up will be a primary task of the Consultant.

The Insurance Consultant will, if appropriate, define an audit scope and follow through with an audit program.

Secondly, the Power Authority Insurance Consultant will conduct an independent evaluation of owner vs. contractor provided insurance.

RECOMMENDATION THREE:

3. Power Authority should decide whether or not to utilize owner provided insurance far enough in advance to incorporate this into the contractor RFP. For example,

contractors could submit bids with insurance, without insurance, or both with and without insurance and then be measured against some pre-determined criteria.

In addition, sufficient time should be allowed to go through a broker selection process on construction projects where Power Authority opts for owner provided insurance.

POWER AUTHORITY RESPONSE:

Power Authority agrees that should the review of the Insurance Consultant indicate that owner-provided insurance is cost effective and in the best interest of the Power Authority and provided that the Power Authority staff concur with the Consultant's opinion, any owner-provided insurance programs will be incorporated in the contract issuance process.

Power Authority will take steps to insure that sufficient time is allowed to properly select a qualified broker.

RECOMMENDATION FOUR:

4. Power Authority and Risk Management should clarify their respective responsibilities over Power Authority projects, whether under construction or completed. In December, 1981, the two agencies signed a memorandum of understanding outlining the role each played in providing risk management services for Power Authority. However, this "understanding" has become somewhat strained. For example, brokers have been given conflicting signals over certain coverages, and Power Authority is even considering employing its own risk manager.

We would hope that Power Authority's decision will be based on economics and need, and will consider all those issues inherent to wrap-up regardless of who administers it. In any event, until and unless Power Authority establishes its own risk management program, the existing memorandum of understanding should be followed to ensure comprehensive and continuous coverage on Power Authority projects.

POWER AUTHORITY RESPONSE:

The Power Authority agrees with this recommendation and as such the Power Authority and the Division of Risk Management have mutually agreed that the day-to-day administration and monitoring of Tye "wrap-up" insurance program should be the responsibility of Risk Management. The Power Authority Tye insurance contracts are in the process of being assumed by Risk Management. The Power Authority believes that the existing memorandum of understanding has been clarified for both parties.

The Power Authority will approve insurance premium payments prior to Risk Management making payment. Payment will be made on the basis of insurance premium invoiced cost and in accordance with the terms specified by the Power Authority's transmitted RSA.

The existing memorandum of understanding applies only to the Tyee "wrap-up" insurance program. The Power Authority will rely on the advise of its Insurance Consultant in evaluating future project insurance requirements.



ALASKA STATE LEGISLATURE
HOUSE OF REPRESENTATIVES
RESEARCH AGENCY

Pouah Y. State Capitol
Juneau, Alaska 99811
(907) 465-3991

February 11, 1983

MEMORANDUM

TO: Representative Don Clocksin

FROM: Jack Kreinheder
Research Staff *JK*

RE: Lake Tye Power Costs and Project History
Research Request 83-39

You requested that we summarize the current status of contract negotiation, the sale of power from the Lake Tye hydro project. You asked that we address the expected cost of power from the project, current power costs in Petersburg and Wrangell, and alternatives for reducing Tye power costs to marketable levels.

The attached letter from the Alaska Power Authority outlines the sequence of construction cost estimates for the Tye project and the decisions made by the Power Authority Board concerning project construction.

It is important to emphasize that the power cost projections in this memorandum are preliminary and are currently being revised by the Power Authority to reflect detailed financing arrangements for the Tye project. These revised cost estimates will probably be somewhat lower than the figures cited here.

SUMMARY OF FINDINGS

The basic power marketing problem for the Tye project is that the wholesale cost of power from the project in its first years of operation is projected to be about 40 percent higher than current power generation costs for Petersburg and Wrangell. The Power Authority estimates that Tye power will cost about 16.5 cents per kilowatt hour (KWH) in FY 1986. Recent press reports have cited claims by Petersburg officials that the retail cost of power from Tye would be 100 percent higher than current levels. However, these claims are disputed by the Power Authority, as discussed later.

Power generation in Petersburg and Wrangell now costs about 12 cents per KWH and this cost is not likely to increase substantially over the next several years unless oil prices increase more than expected by most forecasters. These communities are understandably not willing

to sign contracts to purchase Tyee power at rates substantially higher than current generation costs.

If no action is taken by the legislature to reduce Tyee rates, it appears that power sales agreements could not be obtained and the Power Authority would not be able to sell the necessary revenue bonds to repay the interim financing for the project. Although I did not research the possible steps the Power Authority might take in this situation to avoid a default on the Tyee debt, the Authority would probably be in a precarious financial position.

There are several possible approaches to reducing power rates for the Tyee project, most of which require more State money:

- (1) Make an additional lump sum appropriation to the hydro program to reduce the amount of debt financing required for Tyee and other projects. About \$70-80 million may be required to reduce Tyee rates to the level of current power costs. If desired, this appropriation could be structured as a loan, to be repaid to the State after Tyee power becomes competitive with the cost of power from present generation facilities.
- (2) Appropriate a smaller amount of about \$20 million only to the Tyee project and enact temporary legislation which would reduce only the Tyee rates. (Under present law, an appropriation to any power project would reduce the power rates by an equal percentage for all projects.)
- (3) Make annual appropriations of about \$2-3 million to cover a portion of the debt service costs for the Tyee project, allowing power rates to be reduced until the project becomes competitive with diesel generation costs.
- (4) Amend the rate structure under present law to spread the higher cost of Tyee power among other power projects.
- (5) Restructure the long-term debt for the Tyee project to reduce debt service costs in the early years of project operation (the viability of this approach is uncertain).

TYEE POWER COSTS

The following table shows projected wholesale power costs for the Tyee project from FY 85 to FY 90.

PROJECTED TYEE WHOLESALE POWER COSTS (Cents per Kilowatt Hour)						
Fiscal Year	1985	1986	1987	1988	1989	1990
Power Cost	12.8	16.5	16.7	15.8	17.0	17.2
Power Sales (Millions of KWH)	32.0	32.8	33.6	34.5	35.3	36.2

Source: Alaska Power Authority for FY 85-86, adjusted by House Research Agency for FY 87-90 for 4 percent annual increase in debt service cap, 3 percent average annual load growth for all APA projects, and 5 percent annual inflation in operation and maintenance costs. Debt service calculations based on 35-year revenue bonds at 11 percent interest, with a 1.1 coverage level.

Again, these projections are preliminary, and more accurate figures will be available within a week. These projected rates are probably on the high side because they do not account for the interest earned on debt reserve funds or the lower-than-expected cost of the interim financing for the project. The Power Authority's financial advisors are now working to incorporate these and other adjustments to arrive at more accurate rate projections. One uncertainty in these rates is that they assume the Wrangell sawmill will buy about 7 million KWH per year -- about 20 percent of total project's power sales from the project. The sawmill was shut down for over a month this winter and could be an uncertain buyer of Tyee power.

The Tyee project is scheduled to be completed in early 1984, and may be on line as soon as October 1983 if work continues at its current pace. When the project begins generating power, the initial rate will be set to cover only operation and maintenance costs (4-5 cents/KWH) until the start of the 1985 fiscal year, when the rate will increase to cover the costs of long-term financing for Tyee and the Swan Lake project. The power rate will increase again in FY 86 to reflect the cost of

revenue bonds issued for the Terror Lake project. After 1986, the Tye power rate will probably increase by about two percent per year.*

PROJECT FINANCING

The completed cost of the Tye project is now estimated at \$115 to \$125 million. Construction of the project has been financed by \$82 million in appropriations from the legislature and \$50 million in interim financing. This interim financing will have to be repaid in the spring of 1984 through the issuance of revenue bonds, additional State appropriations, or a combination of the two. The Swan Lake project also has \$50 million in interim financing which will be repaid at about the same time. Terror Lake has \$100 million in short-term debt which will be due in 1985.

HB 9 RATE STRUCTURE

The financing and power costs for Tye are tied to those of other Power Authority hydro projects under legislation enacted in 1982 (CCSHB 9 -- Chapter 155). This statute requires each hydro project to pay its "proportionate share" of the total debt service costs for all projects, as determined under a formula in the statute. Basically, the statute means that if the construction cost of Tye is 25 percent of the total cost of all projects in the system, Tye must pay 25 percent of the total debt service costs for all projects. The wholesale power rate for each project is then determined by adding operation and maintenance expenses to debt service costs and dividing this sum by the expected power sales for each project.

The HB 9 rate structure replaced the "postage stamp" or single statewide rate formula which was enacted in 1981 by SB 25. The major purpose for the change in the rate structure was to increase the incentive for building cost-effective and properly sized projects, by linking power costs more directly with project construction costs.

When the conference committee on HB 9 reviewed rate projections for the four power projects, there was concern that the rates for the Tye and Swan Lake projects would be excessive under the HB 9 rate structure. As a result, the committee included in the legislation a limit or cap on the debt service cost for each project. Under this cap, no project must pay more than the average debt service cost for all Power Authority

* The rate calculation is complex, but the three main factors that affect the project rates after 1986 are: inflation in O&M costs, the rate of growth in power sales, and the 4 percent annual increase in the HB 9 debt service cap. The addition of the Bradley Lake project or other projects could also affect Tye rates substantially.

projects, plus a certain percentage which increases each year (8 percent in FY 85, 12 percent in FY 86, and so on). Although this debt service limit reduces the power rate for Tye substantially, it does not reduce the rate to a marketable level.

Because the debt service costs are pooled for all projects in the system, an appropriation to Tye or any other project would reduce the power costs for all projects by an equal percentage.

PETERSBURG AND WRANGELL POWER COSTS

Current Costs

Exact power costs for Wrangell and Petersburg were not readily available at this writing. However, the busbar generation cost (equivalent to the wholesale power cost from Tye) for both communities is approximately 12 cents per KWH. Wrangell generates all of its electricity from diesels, while Petersburg obtains about half its power from the Crystal Lake hydro project, which was built many years ago. The Petersburg utility apparently has a higher level of debt than the Wrangell utility, which offsets the lower cost of power from the hydro facility.

While most of the recent publicity concerning the Tye project has focused on the city of Petersburg, the Power Authority staff maintains that Wrangell would face a larger rate increase if Tye power were purchased at current projected rates than would Petersburg. According to Mike Yerkes, who is negotiating the Tye contracts for the Power Authority, this is because Wrangell would convert entirely from diesel generation to Tye power, while Petersburg would continue to generate about half its power from the low-cost Crystal Lake hydro project, which was built decades ago.

Future Costs

The rate of increase in future generation costs for Petersburg and Wrangell is one of the basic questions to consider in determining what approach the State might take to the Tye situation. The cost of diesel fuel is the largest expense component for these utilities, averaging about 9-10 cents per KWH generated over the past year. As you know, the future of world oil prices is highly uncertain and the range of forecasts is considerable. However, the most recent Department of Revenue forecast projects a 28 percent cumulative decrease in the real price of oil through FY 87. In nominal terms, oil prices in FY 88 are forecast to be about the same as today.

If this projection is accurate, it may be the early to mid-1990s before diesel generation costs would increase to the level of Tye

costs. However, an additional consideration is that Wrangell and Petersburg may have deferred expansion of their generation facilities in expectation of receiving Tyee power. Therefore, new generators might have to be added to meet increases in load growth during the 80s, which would increase power rates.

Retail Power Rates

Part of the publicity over the Tyee project centered on claims by Petersburg officials that they would have to add about 9 cents per KWH to the wholesale cost of power from Tyee for distribution and overhead costs, thus doubling the retail power costs from current levels. The Power Authority staff believe this figure is highly inflated and does not account for savings in diesel maintenance costs which would occur when Tyee comes on line. The staff is preparing documented estimates of what they feel are more realistic distribution and overhead costs.

Other Concerns

It is important to note that the cost of power from current projects is not the only concern of Petersburg, Wrangell, and other cities or utilities to be served by Power Authority projects. These groups are also concerned that under the current rate structure, their power rates could increase substantially as additional projects are added to the system. Whether this would occur depends on the level of State funding for the additional projects. If the ratio of State funding to bonded costs for new projects is lower than the average for current projects, the rates for current projects would rise.

The "Susitna Blackmail Clause" [AS 44.83.398(b)(2)] is an additional source of concern for municipalities and utilities, as the clause could dramatically increase power rates if not repealed. This clause would increase power rates by requiring a 10 percent annual return on investment to the State if \$5 billion has not been appropriated for power projects by 1986.

POSSIBLE APPROACHES TO THE TYEE RATE PROBLEM

There are several possible approaches to the Tyee rate problem, as summarized earlier. The choice among them is complex and depends on basic policy issues relating to the power development program. Some of the more important factors to consider are discussed below.

Lump Sum Appropriation

This approach would be the most expensive; preliminary calculations indicate that \$70-80 million would be necessary to lower the Tyee power rates to the cost of diesel generation.* Although the outstanding debt on the Tyee project is only \$50 million, the pooling of debt service among all projects under the APA rate structure requires a larger appropriation to reduce Tyee rates sufficiently. A lump sum appropriation would also lower the power rates for Solomon Gulch, Swan Lake, and Terror Lake by an equal percentage (about 40 percent). This raises two questions.

First, is it necessary or desirable to reduce the power rates for other projects that already have reasonably price power? Second, what effect would lowering the rates for all projects now on line or under construction have on future projects? Lowering the average power rate would reduce the debt/equity ratio for current projects and require a higher level of State appropriations for future projects unless power rates were to be increased for all projects.

Special Tyee Legislation

If special legislation were passed so that a one-time appropriation would be used to reduce only Tyee power rates, roughly \$20 million would be required to provide the necessary rate reduction. However, this approach could be viewed as creating a precedent for "bailing out" high-cost projects which might result in similar problems for future projects.

Annual Appropriation

In lieu of a one-time appropriation, the legislature could make annual appropriations of about \$2.4 million to cover the debt service shortfall that will result if power is sold at 12 cents rather than 16.5 cents per KWH. These appropriations would continue and eventually diminish

* I have not included these calculations here for the sake of brevity, but can provide them if desired.

to zero as the cost of diesel generation increased to match the cost of Tye power or the cost of Tye power fell. Although it is uncertain how long these annual appropriations would be required, depending on fuel escalation rates and other factors, the total cost would probably be half or less the cost of a lump sum appropriation.

The Petersburg and Wrangell utilities would be eligible for rate relief under the power cost assistance program, but only for the portion of retail rates above 16 cents in FY 86. This floor increases by one cent each fiscal year. Also, cost assistance is available only for the first 600 KWH per month sold to each customer. Therefore, a separate appropriation specifically for Tye debt service might be required each year in order to reduce power rates sufficiently.

Modification of Rate Structure

It would be technically possible to modify the statutory rate structure to reallocate at least part of the Tye debt service to other lower cost projects, primarily Solomon Gulch and Terror Lake. The communities served by these projects would probably strongly oppose this change. In addition, the bond markets could view this juggling of the rate structure with some concern.

Restructure Project Debt

It may be possible to reduce the debt service costs for the first few years of operation of the Tye project by borrowing additional funds with which to pay part of the interest on the bonds for several years. According to Sterling Gallager of John Nuveen and Associates, it is legally possible to have this type of arrangement for five years without violating federal arbitrage regulations. However, the financial viability of this approach is uncertain and would require additional research.

Another possibility would be to use a geometric financing approach, in which the debt service schedule would be shifted so that debt service costs would be lower in the early years and increase gradually as the project power sales increased. This approach has been used in a few utility bond issues, but it is uncommon and would also require more investigation to determine its viability for the Tye situation.

IMPLICATIONS FOR OTHER POWER PROJECTS

A number of legislators and other observers have expressed concern about the possibility of the Tye marketing problem occurring with Susitna or other hydro projects. This is a controversial issue with numerous points of view, but a few observations may be helpful in understanding the problem.

It is important to recognize the distinction between the economic feasibility of a hydroelectric project and the marketing feasibility of the same project. Although the economic feasibility of the Tye project is an issue itself, the point is that even a clearly feasible hydro project will usually require some sort of grant or low-cost financing to lower power rates to marketable levels in its early years of operation. After a period of years, increasing power sales and higher fuel costs for the alternative generation source should result in a break-even point, after which the hydro power becomes less expensive. The initial subsidy to the project can then be repaid, if necessary.

In the case of the Tye project, the continually increasing cost estimates for the project made it difficult to determine how much State money was required to achieve marketable power rates. The power marketing problem for Tye is also accentuated by the fact that Tye has the largest excess generation capacity of the four projects now on line or under construction -- only about 25-30 percent of the project's capacity will be used in the first years of operation. This lower level of utilization means that a higher proportion of State funds is necessary to obtain reasonable power rates.

A major element of the Tye problem appears to be that neither the legislature nor the Power Authority placed sufficient emphasis until recently on the marketing of power from the projects under construction. Part of the reason for this apparent oversight is that in 1980 and 1981, State revenues were increasing rapidly and it was expected that most of the project costs would be funded through direct appropriations or low-cost loans, rather than by revenue bonds. With this expectation, power marketing was not an issue because of the low power costs. The sharp decline in State revenues has resulted in more reliance on debt financing, causing higher power rates and the marketing problem demonstrated by the Tye project.

With respect to the Power Authority, an additional problem was the lack of staff with experience in marketing and rate issues. It was only about 10 months ago that the Power Authority hired someone with rate setting and utility experience. Until then, the focus of the staff

Representative Clocksin

February 11, 1983

Page 10

was more on the feasibility, design, engineering and financing aspects of power development.

A final contributing factor to the Tye situation was that the revisions to the Power Authority rate structure enacted in 1982 by HB 9 were not based on a full assesment of the effect of these rate revisions on the marketability of power from Tye and the other projects.

The likelihood of the Tye rate problem occurring with other power projects is difficult to assess. The Power Authority appears to have made good progress in dealing with the marketing issue. Several measures have been taken to avoid the recurrence of the Tye cost escalation problem, and a number of recent bids for construction of the Terror Lake and Anchorage-Fairbanks projects have been substantially lower than engineering estimates.

In addition, the Authority has proposed changing its procedures to require power sales contracts to be signed before project construction begins, and this was done for the Terror Lake project. In the past it has been difficult to obtain contracts because it was uncertain how much funding would be provided by the legislature, and there is a natural incentive for communities to lobby the legislature for additional funds to reduce their power rates. It may also be difficult to obtain pre-construction power sales agreements for the Susitna project because of the long lead time of the project.

The chances of the Tye power marketing problem occurring with future power projects would be reduced if the legislature made certain it had sound estimates of the maximum appropriation necessary for power marketing purposes before approving construction of a project, and committed itself to the appropriation of the necessary amount. Any changes in the rate structure should also be made only after detailed evaluation of the impact on project power rates and marketability.

* * * * *

I hope this information is useful. If you have any questions or would like additional information, please don't hesitate to call.

JK

Attachment

ALASKA POWER AUTHORITY

334 WEST 5th AVENUE - ANCHORAGE, ALASKA 99501

Phone: (907) 277-7641
(907) 276-0001

February 9, 1983

Mr. Jack Kreinheder
House Research Agency
Pouch Y
Juneau, Alaska 99811

Subject: Tye Hydroelectric Project-Summary of Estimated Total Costs

Dear Jack:

As per your request, following is a brief summary on the sequence of events on the Tye hydropower project primarily relating to cost. The summary of Board actions was extracted from our corporate minutes. Most of the actions taken by the Board were based on advice from myself and my staff.

On December 19, 1979, the Alaska Power Authority submitted a revised application to the Federal Energy Regulatory Commission (FERC) for the construction of the Tye Hydroelectric Project in the vicinity of Wrangell and Petersburg, Alaska. Our engineers, R.W. Rutherford Associates/International Engineering Company (IECO) estimated the total cost of the project at that time at \$39,590,000 (1980\$'s). With an allowance for inflation and interest during construction the estimated total capital investment at that time came to \$53,333,000.

In September 1980, IECO submitted a revised cost estimate of \$50,976,000 (August 1980\$'s).

Early in 1981, the Power Authority retained EBASCO Services, Inc., to prepare an independent cost estimate. EBASCO subsequently estimated the total project cost at \$96,693,000 (May 1981\$'s). Escalated to the midpoint of construction, this would represent a completed cost of approximately \$110 million. After reviewing the EBASCO estimate, IECO conceded that its previous estimates were low and IECO raised its estimate to \$87,069,000 (June 1981\$'s). EBASCO refuted this revised estimate.

Procurement of long-lead-time turbines began in July 1981 in anticipation of a FERC license. The Board of Directors was realigned by Statute in the latter part of July 1981. The FERC issued a license on August 5, 1981 and the award of several additional procurement and one construction contract followed almost immediately thereafter.

IECO continued to make monthly reports on the status of the project, including estimated total project costs. It is important to note that by the end of March 1982, IECO had increased its project estimate to \$97,072,000,

including engineering costs prior to construction. In the March report the overhead transmission line was estimated to cost \$12,840,000 plus a \$6,000,000 contingency. Less than two months later, during the bid opening for that contract, IECO provided an engineer's estimate of \$23,280,827.00--an estimate that is 24 percent above any previous estimate, including contingency funds. The actual low bid was even higher at \$24,901,466.

Starting with the IECO estimate from the March 1982, report, adjusting for the actual low bid on the transmission line, and adding the estimated cost for a proposed separate substation construction contract, the estimated total project cost was increased by IECO to \$110,133,000 (May 1982). This did not include approximately \$5 million for owner provided insurance. During the months that followed, the total project cost has decreased and increased, slightly, as adjustments have been made for actual bids on relatively small procurement contracts..

In December 1982, and again in January 1983, senior staff of IECO and IECO's parent company, Morrison Knudson (M-K), met with representatives of the Power Authority to discuss construction management of the project, including total project costs. The latest information from IECO is that the total project cost will not exceed \$124,836,100. The Power Authority has asked the parent company, M-K, to completely review this estimate. A report from the M-K staff is anticipated the second week of March 1983.

A summary of Board actions, as extracted from our corporate minutes, is as follows:

October 4, 1978 Board receives report on Tye Project indicating that, according to the reconnaissance study by Robert W. Retherford Associates, (RWR) the Project looks favorable and that Thomas Bay Power Commission (TBPC) will soon enter into contract with RWR for Federal Energy Regulatory Commission (FERC) work and that TBPC may request the Alaska Power Authority to take over the project.

November 18, 1978 APA Board voted to make \$120,000 loan to TBPC for Tye FERC work and this would supplement the \$300,000 available from the Water Resources Revolving Loan Fund (WRRLF) in order to cover the \$475,000 contract with RWR.

June 21, 1979 Board makes a loan to TBPC of \$60,000 for Tye Project. TBPC and Representative E.J. Haugen request the APA take over Tye. The Board directed staff to bring information back at next Board meeting for Project take-over.

September 27, 1979 Tye Letter of Understanding with TBPC adopted by Board.

November 2, 1979 Board authorized Executive Director to submit FERC license application. Also passed "stop-the-clock" resolution needed for bonding.

February 7, 1980 Board agreed to extend contract for advanced Engineering

and Design to IECO for Tye but it was later decided with legal council to seek competitive proposals.

April 18, 1980 Board selects IECO for the Engineering and Design from among three proposals.

October 23, 1980 Board informed that costs have increased from \$39,000,000 to \$51,000,000 IECO explain to Board.

April 20, 1981 Board selects consultant panel as required by FERC.

May 14, 1981 Board opens Bids for Turbines.

July 6, 1981 Board considered awarding contract for Steel Towers and Conductors but defers "notice to proceed" until after opening of major Civil Contract so that the Board could get a better fix on the true cost of the Project.

August 18, 1981 FERC license has been received. Bids for Civil construction were reviewed as were the economics of the Project based on new cost estimates. Notice-to-proceed was given on Towers and Conductors. The Board was informed that existing funds were insufficient and that interim financing would be necessary. Board deferred action until the next meeting.

September 10, 1981 Board awards Civil Works contract to Southeast Harrison Western (SEHW) after lengthy debate.

October 2, 1981 Board informed on legal actions against Tye construction contracts. Need for interim financing was discussed and indicated a proposal would be presented to the Board in December, 1981. Risk Management's desire to use "Wrap-up Insurance" on Tye Project was discussed and actions that would be taken to effectuate such a program.

December 15, 1981 A Finance Plan was presented to the Board. It was recommended that the Board appoint a subcommittee to review the feasibility of the Tye Project based on present knowledge of the costs. Commissioners Ward and Mueller and Dr. Weeden were appointed to the subcommittee. The Board moved that final financing documents for financing be prepared. The economics of the Project was reviewed.

January 22, 1982 Senator Dankworth and Representative Haugen addressed the Board and recommended proceeding with interim financing. Board authorized securing of \$50,000,000 in interim financing. Board awarded a contract for Underwater Cables.

May 25, 1982 The Board awarded the Overhead Transmission Line contingent upon the Legislature not passing a piece of legislation that was being considered but that subsequently was not passed. Thus on June 3, 1982 the Executive Director informed the Board of his intent to issue the award for Transmission Tower construction.

Mr. Jack Kreinheder

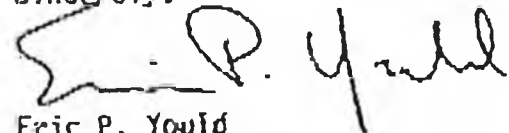
Page #4

February 9, 1983

October 22, 1982 The Board awarded contract for Transformers.

I trust this information is of assistance to you. If there is any further information you need, please call on me.

Sincerely,



Eric P. Yould
Executive Director

CC:

C. Conway

Comm. D. Lyon

APPENDIX A

SCHEDULE OF APA CONTRACTS WITH
AND PAYMENTS TO BROKERS
As of June 15, 1982

<u>Contract Encumbrance Number</u>	<u>Description</u>	<u>Contract Amount</u>	<u>Payments at 06/15/82</u>
CC082307	Alaska Power Construction Program (APCOP) - Tyee Lake, Phase I	\$1,790,000	\$540,000 ²
CC082304	APA Contract Insurance Review	\$ 40,000	\$ 20,000

1 To date, no provisions for Tyee Lake - Phases II-III have been appended to the APCOP contract. These phases were bid net of insurance, but how and through whom APA will provide insurance has not been finalized.

2 Scheduled payments are:

10/01/81	\$ 640,000	
Less Premium Discount	<u>(100,000)</u>	
		\$ 540,000
08/01/82		580,000
02/01/83		<u>570,000</u>
		<u>\$1,690,000</u>

APPENDIX B

TYEE LAKE LOSSES AND PAYMENTS
As of May 31, 1982

<u>Loss Type</u>	<u>Estimated Loss Incurred</u>	<u>Loss Payments</u>
Workers' Compensation ¹	\$111,846	\$33,108
Property	<u>20,000</u>	<u>-0-</u>
	<u>\$131,846</u>	<u>\$33,108</u>

- 1 As of May 31, 1982, 14 Workers' Compensation claims had been submitted for adjustment. Largest estimated loss for a single claim was \$25,000.

DEPARTMENT OF ADMINISTRATION

OFFICE OF THE COMMISSIONER

POUCH C

JUNEAU, ALASKA 99811

August 2, 1982

Mr. Gerald Wilkerson, CPA
Legislative Auditor
Division of Legislative Audit
Legislative Budget and Audit Committee
Pouch W
Juneau, AK 99811

RECEIVED
AUG 02 1982
LEGISLATIVE
AUDIT

Re: Response to a Special Review of the Alaska Power Authority Insurance Programs Administered Through the Alaska Power Authority and the Department of Administration, Division of Risk Management, Dated June 29, 1982

The decision to recommend the Wrap-up program to the Alaska Power Authority (APA) was completely the responsibility of the Division of Risk Management. Wrap-up insurance has been the normal way to cover large construction projects for the last 30 years. This is not to imply that wrap-ups are not controversial because they are. This controversy, however, does not deter from the cost effective nature of wrap-ups. There are three valid reasons for not considering wrap-up insurance:

1. The construction project is not large enough (50 million or greater);
2. The Risk Management Program of the owner or contractor is not sophisticated enough to adequately coordinate the required services.
3. The political considerations which have resulted in several states passing restrictive legislation prohibiting wrap-ups.

Prior to recommending wrap-up to the APA, meetings were held between Risk Management and the Division of Insurance. Even though wrap-ups are acceptable in Alaska, the Division of Insurance is responsible for setting up guidelines and if required, adopting regulations. After reviewing the guidelines and discussing Risk Management's program, the Division of Insurance decided to not adopt regulations. Most of the questions regarding wrap-ups had been answered

several years ago when Alyeska Pipeline Co. was given approval to provide an owner wrap-up for the Taps Construction.

Before answering the individual recommendations, we would like to make two observations: First, the atmosphere surrounding the initiation of this audit was inflammatory in that there were a considerable number of rancorous accusations made against the Division of Risk Management, APA and the APCOP brokers. We believe that the auditors were able to cut through the periphery issues and produce a professional report which is notable for its objectivity.

Second, many of the legal issues on closer examination did not have substance. In order to completely counteract the questions, we had legal research done on several of these legal questions and they were not found to be meritorious.

The conclusion that there were no improprieties are concurred with. The decision to use the State's recently appointed brokers for the first wrap-up program is justified from a Risk Management standpoint and the brokers who participated in the RFF understood it to be for Risk Management services over a three to five year period.

The \$40,000 contract review program has received more publicity than it warrants. This contract review had two facets: 1. To determine what existing liabilities were outstanding, and to provide coverage if needed. Since the State's brokers were responsible for providing the coverage ex commission, there was no logical way to select another contractor. Also, there was a sense of urgency due to the pending acquisition of the Solomon Gulch and Swan Lake projects and the need to become immediately involved in the contract negotiations between the APA and the project attorneys.

Recommendations

1. The Divisions of Risk Management, Insurance, and Workers' Compensation should discuss, in a formal setting if necessary, the Workers' Compensation and other insurance questions that have been raised. Using a State-funded loss reserve for non-State employees is clearly a divisive and unresolved issue. It is incumbent on these agencies to clarify what is a very gray area.

Agreed. Attached is a memo (Appendix I) which has been sent to both the Division of Insurance and the Workers' Compensation Board which should resolve the problem. If not, we are prepared to meet with appropriate personnel to answer any questions.

2. APA and Risk Management should monitor and evaluate the Tye Lake wrap-up program in order that some comparative data be available for future

projects. This would entail audits and actuarial reviews of payments and loss reserves, as well as an independent evaluation of owner vs. contractor provided insurance.

Agreed. This recommendation is an excellent one and one in which Risk Management is quite interested in pursuing. We believe that the Tye Program will prove to be extremely cost effective and will also have a considerably better safety record than similar projects of this type. In addition, we believe that we are using a maximum of Alaska Risk Management contractors on the Program and that we are making it available for the smaller Alaska contractor to participate by furnishing raw coverage insurance that the smaller contractor might not be able to purchase on its own. See Appendix II and III for allocation of costs.

3. APA should decide whether or not to utilize owner provided insurance far enough in advance to incorporate this into the contractor RFP. For example, contractors could submit bids with insurance, without insurance, or both with and without insurance and then be measured against some pre-determined criteria.

In addition, sufficient time should be allowed to go through a broker selection process on construction projects where APA opts for owner provided insurance.

Agreed. Risk Management was limited by the decision process that the APA and its board of directors were operating under. There is no question but that the insurance language should be incorporated prior to the bids being put out. In addition, we would recommend that all insurance specifications include the owner wrap-up language and that after the bid is let that the contractor's firm be given the option of proposing its price to write the coverage. In this way a direct comparison of advantages of owner or contractor wrap-up could be made and a decision made at that time.

4. APA and Risk Management should clarify their respective responsibilities over APA projects, whether under construction or completed. In December, 1981, the two agencies signed a memorandum of understanding outlining the role each played in providing risk management services for APA. However, this "understanding" has become somewhat strained. For example, brokers have been given conflicting signals over certain coverages, and APA is even considering employing its own risk manager.

We would hope that APA's decision will be based on economics and need, and will consider all those issues inherent to wrap-up regardless of who

August 2, 1982

administers it. In any event, until and unless APA establishes its own risk management program, the existing memorandum of understanding should be followed to ensure comprehensive and continuous coverage on APA projects.

Agreed. There have been meetings with the APA and Risk Management since the pressure of the legislative activity has been reduce. The result of the last meeting was that Risk Management would take over the administration of the contract between the APA and the APCOP brokers. In this way the APA would not be responsible for understanding and administering a Risk Management Program but instead, will pass this responsibility to Risk Management pending any decision to set up their own program. In this regard there is presently a Request for Proposal (RFP) for a Risk Management consultant to study the whole wrap-up insurance question for the APA.

Although it is difficult to quantify the exact savings to the State, a Federal government study has verified savings of 30-40 percent of conventional insurance costs. This relates to two percent of construction costs. In addition, since the State holds on to the loss reserves, an additional one per cent of costs is realized through investment earnings. If the present construction schedule of the APA is realized, the savings would amount to \$192,600,000.

It is important that the controversy surrounding this program not obscure the potential savings to the State, which would be lost if the program were terminated.

Sincerely,

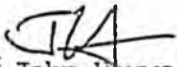

Carole J. Burger
Commissioner

CB/JH/jbh
3/0802-02/RM2

MEMORANDUM

State of Alaska

TO: Ms. Jackie McClintock
Director
Division of Workers' Compensation
Department of Labor

FROM: 
John Raywood
Director
Division of Risk Management
Department of Administration

DATE: August 2, 1982

FILE NO:

TELEPHONE NO: 465-2180

SUBJECT: Tyee Lake Wrap-up
Program Insurance

There have been several questions raised as to the details of the Workers' Compensation Insurance for the Tyee Lake Wrap-up Program. There are many ways in which large accounts structure their workers' compensation programs and some are more controversial than others.

Due to the unusual level of interest in this program, it was Risk Management's decision with the concurrence of Marsh and McLennan and Pacific Marine Insurance Company to provide one of the conventional forms of coverage.

Consequently, we have negotiated a Retrospective Rating Plan "D" combined Workers' Compensation and General Liability. This is an incurred loss retro program which puts it in the mainstream of insurance programs.

JH/je
5/0802-06/RM1

APPENDIX II
TYEE PREMIUM ALLOCATION

TOTALS	I - Tunnel & Powerhouse	=	\$1,690,000
	II - Submarine Cable	=	598,000
	III - Transmission Line	=	1,496,602
	TOTAL		<u>\$3,784,602</u>

PHASE I - Powerhouse & Tunnel Contract - \$1,690,000 - Total Premium

1. General Liability & Workers' Compensation - 2 yrs	=	974,000
2. Inland & Marine Cargo	=	303,000
3. Non-owned Aviation	=	61,000
4. C.O.C. - Builders Risk	=	181,000
5. Excess Insurance	=	171,000
		<u>\$1,690,000</u>

PHASE II - Submarine Cable Contract - \$598,000 - Total Premium

1. General Liability & Workers' Compensation	=	179,400
2. Non-owned Aviations	=	32,500
3. C.O.C. - Builders Risk	=	29,900
4. Excess Insurance	=	63,980
5. Marine Insurance	=	292,220
		<u>\$ 598,000</u>

PHASE III - Transmission Line Contract - \$1,496,602 - Total Premium

1. General Liability & Workers' Compensation	=	1,174,327
2. C.O.C. - Builders Risk	=	162,100
3. Excess Insurance	=	160,130
		<u>\$1,496,602</u>

APPENDIX III
TYEE WRAP-UP BUDGET
August 22, 1982

PHASE	I	-	1,690,000
	II	-	598,000
	III	-	1,496,602
TOTAL		-	3,784,602

PREMIUM	1,242,000
RETENTION	1,894,000
ADMIN. EXP.	82,000
BROKER FEE	119,000
EXTRAORDINARY TRAVEL/LEGAL	40,000
SAFETY	78,000
CLAIMS ADJ	60,000
ATTORNEYS	15,000
CONTINGENCY	207,602
PRESS RELEASE	5,000
INSURANCE LIASON	20,000
CPA/ACTUARIAL	10,000
CLAIMS MANAGEMENT	<u>12,000</u>
TOTAL	3,784,602

3/0802-02/RM2

ALASKA POWER AUTHORITY

334 WEST 5th AVENUE - ANCHORAGE, ALASKA 99501

Phone: (907) 277-7641
(907) 276-0001

August
RECEIVED
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LEGISLATIVE
AUDIT

Mr. Gerald Wilkerson, CPA
Budget and Audit Committee
Legislative Auditor
Division of Legislative Audit
Pouch W
State Office Building
Juneau, Alaska 99811

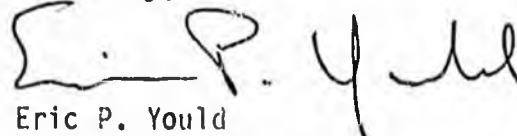
Subject: Response to Preliminary Audit Report
Alaska Power Authority Insurance Programs

Dear Mr. Wilkerson:

Attached is our response to the Preliminary Audit of June 29, 1982. Mr. Conway requested that I respond to you directly. The Alaska Power Authority has expressed its agreement with each of the Audit Report Recommendations and has initiated action to implement the recommendations.

The Power Authority is currently selecting an Insurance Consultant to provide professional services on insurance matters. This action will increase our expertise and management of insurance related issues and thereby mitigate the administrative concerns addressed in the Legislative audit.

Sincerely,



Eric P. Yould
Executive Director

Attachment: as stated

ALASKA POWER AUTHORITY

RECOMMENDATION ONE:

1. The Divisions of Risk Management, Insurance, and Workers' Compensation should discuss, in a formal setting if necessary, the Workers' Compensation and other insurance questions that have been raised. Using a State-funded loss reserve for non-State employees is clearly a divisive and unresolved issue. It is incumbent on these agencies what is a very gray area.

POWER AUTHORITY RESPONSE:

This recommendation is not addressed to the Alaska Power Authority.

RECOMMENDATION TWO:

2. Power Authority and Risk Management should monitor and evaluate the Tye Lake wrap-up program in order that some comparative data be available for future projects. This would entail audits and actuarial reviews of payments and loss reserves, as well as an independent evaluation of owner vs. contractor provided insurance.

POWER AUTHORITY RESPONSE:

The first part of this recommendation addresses the monitoring and evaluation of the Tye Lake wrap-up program and refers to an audit program. The Power Authority agrees that this is a necessary and beneficial action since the Tye wrap-up program is the Power Authority's first owner's provided insurance program.

In order to implement this recommendation, the Power Authority has issued an RFP for an Insurance Consultant. An evaluation of the Tye wrap-up will be a primary task of the Consultant.

The Insurance Consultant will, if appropriate, define an audit scope and follow through with an audit program.

Secondly, the Power Authority Insurance Consultant will conduct an independent evaluation of owner vs. contractor provided insurance.

RECOMMENDATION THREE:

3. Power Authority should decide whether or not to utilize owner provided insurance far enough in advance to incorporate this into the contractor RFP. For example,

contractors could submit bids with insurance, without insurance, or both with and without insurance and then be measured against some pre-determined criteria.

In addition, sufficient time should be allowed to go through a broker selection process on construction projects where Power Authority ops for owner provided insurance.

POWER AUTHORITY RESPONSE:

Power Authority agrees that should the review of the Insurance Consultant indicate that owner-provided insurance is cost effective and in the best interest of the Power Authority and provided that the Power Authority staff concur with the Consultant's opinion, any owner-provided insurance programs will be incorporated in the contract issuance process.

Power Authority will take steps to insure that sufficient time is allowed to properly select a qualified broker.

RECOMMENDATION FOUR:

4. Power Authority and Risk Management should clarify their respective responsibilities over Power Authority projects, whether under construction or completed. In December, 1981, the two agencies signed a memorandum of understanding outlining the role each played in providing risk management services for Power Authority. However, this "understanding" has become somewhat strained. For example, brokers have been given conflicting signals over certain coverages, and Power Authority is even considering employing its own risk manager.

We would hope that Power Authority's decision will be based on economics and need, and will consider all those issues inherent to wrap-up regardless of who administers it. In any event, until and unless Power Authority establishes its own risk management program, the existing memorandum of understanding should be followed to ensure comprehensive and continuous coverage on Power Authority projects.

POWER AUTHORITY RESPONSE:

The Power Authority agrees with this recommendation and as such the Power Authority and the Division of Risk Management have mutually agreed that the day-to-day administration and monitoring of Tye "wrap-up" insurance program should be the responsibility of Risk Management. The Power Authority Tye insurance contracts are in the process of being assumed by Risk Management. The Power Authority believes that the existing memorandum of understanding has been clarified for both parties.

The Power Authority will approve insurance premium payments prior to Risk Management making payment. Payment will be made on the basis of insurance premium invoiced cost and in accordance with the terms specified by the Power Authority's transmitted RSA.

The existing memorandum of understanding applies only to the Tyee "wrap-up" insurance program. The Power Authority will rely on the advise of its Insurance Consultant in evaluating future project insurance requirements.

STATE OF ALASKA

THE LEGISLATURE

BUDGET AND AUDIT COMMITTEE

AUDIT DIVISION
POUCH W
JUNEAU, ALASKA 99811

January 11, 1983

Members of the
Legislative Budget and Audit Committee:

Re: Alaska Power Authority "Wrap-Up" Insurance on Tye Lake

On June 29, 1982, we completed a review of Alaska Power Authority (APA) insurance programs administered through APA and the Department of Administration, Division of Risk Management (RM). In follow-up to that review we were requested by the Legislative Budget and Audit Committee to obtain or develop an estimate of the costs that would be incurred if the State cancelled its current brokerage contract and "wrap-up" insurance program on the Tye Lake hydroelectric project. This letter constitutes our response.

Cost Estimate Developed By Division of
Risk Management, Brokers

At our request, the brokers currently administering the Tye Lake insurance program (Marsh & McLennon, Inc.) and the Division of Risk Management developed a cost estimate of cancelling the Tye Lake wrap-up insurance program now in place. They estimate that cancelling the program approximately halfway through the project would cost the State an additional \$2.25 million over the \$3.82 million currently projected for insurance costs. This is illustrated in the following schedule:

COST ESTIMATE - CANCELLATION OF
CURRENT TYEE LAKE INSURANCE PROGRAM

	<u>Full Term Wrap-Up (in millions)</u>	<u>Cancelled Wrap-Up (in millions)</u>
wrap-up costs already incurred or projected (Note 1)	\$3.82	\$ 1.91
10% "short note" penalty (Note 2)	-0-	.38
Non-controlled program costs (Note 3)	-0-	3.38
Gross costs excluding invest- ment income	<u>\$3.82</u>	<u>5.67</u> <u>(3.82)</u>
Excess of Cancelled Wrap-Up over Full Term Wrap-Up		<u>1.85</u>
Add: Unrealized investment income (Note 4)		<u>.40</u>
<u>Total excess cost of cancel- ling Wrap-Up insurance on Tyee Lake</u>		<u>\$ 2.25</u>

Note 1

Insurance program costs calculated at 4.25% of total project cost. Using estimated project cost of \$90 million, projected wrap-up cost = \$90 million X 4.25% or \$3.82 million. Since project approximately 50% complete, wrap-up cost already incurred = \$3.82 million X 50% or \$1.91 million.

Note 2

Penalty for early cancellation, calculated at 10% of full-term wrap-up cost.

Note 3

RII and brokers originally estimated that a contractor or "non-controlled" insurance program would have run 6.25% of total project cost (2% higher than 4.25% applied under wrap-up program). In addition, they estimate that contractors and underwriters would increase this rate by an additional 20% (6.25% X 20% = 1.25%) surcharge for mid-term replacement. It is their estimate, then, that "non-controlled" insurance costs for the remainder of the project would be applied at a rate of 7.5% (6.25% + 1.25%). This rate applied to remaining project costs of \$45 million = \$3.38 million.

Note 4

Assuming approximately 12% rate of return over the remaining life of the project.

Comments on Cost Estimate

The Division of Risk Management and Marsh & McLennon, Inc. acknowledge that the above cost estimate is very rough, but state that it is, if anything, too low. They point out, for example, that the State would be in a poor bargaining position to force contractors and their underwriters to be cost-effective in developing alternative insurance programs. The State has already agreed to provide insurance; it cannot now dictate that the contractors provide their own insurance and that they do so on the State's terms.

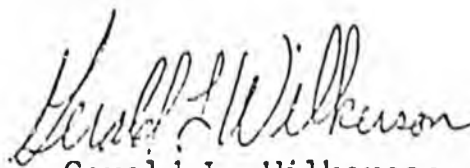
On the other hand, the independent consultant hired by APA to review, among other things, the insurance program for Tye Lake believes the RM/Marsh & McLennon, Inc. cost estimate for cancelling the current insurance program to be too high. In particular, he cites the 7.5% rate estimate for a "non-controlled" program (see Note 3) as being inflated, particularly since no survey was made of contractors and their underwriters to get their input. He does not believe, however, that the current Tye Lake insurance program should be cancelled, and agrees that if the program were cancelled the State would ultimately incur higher costs.

The APA had no comments on the cost estimate per se, but expressed its concern that no additional cost be incurred on Tye Lake since this would in turn result in increased electricity rates for consumers.

Summary and Auditor's Comments

The cost estimate prepared by the Division of Risk Management and Marsh & McLennon, Inc. is presented here because it is the best information readily available to us. As noted above, some of the factors used in this estimate are very subjective and the actual costs of cancelling the current wrap-up insurance program in place for Tye Lake could vary considerably from the quoted \$2.25 million. There does appear to be a general agreement, however, that cancellation would result in increased costs and would therefore not be in the best economic interests of the State. We concur with this assessment.

Sincerely,



Gerald L. Wilkerson, CPA
Legislative Auditor
Division of Legislative Audit