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Description of document: PowerPoint Presentation to National Aeronautics and Space Administration (NASA) concerning Insurance issues related to the International Space Station, January 30, 2001, International Space Brokers Inc., Rosslyn Virginia

Request date: 27-July-2014

Released date: 10-December-2014

Posted date: 20-April-2015

Source of document: Freedom of Information Act Request
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NASA Headquarters
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[Online Electronic FOIA Request Form](#)

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National Aeronautics and Space Administration
Headquarters
Washington, DC 20546-0001



December 10, 2014

Reply to Attn of:

Office of Communication
Headquarters, FOIA Office

FOIA: 14-HQ-F-00722 REMAND

This is in response to the Freedom of Information Act (FOIA) request dated and received in our office on July 27, 2014. The request was for:

Presentation to NASA concerning Insurance issues related to the International Space Station, January 30, 2001, Powerpoint Presentation, International Space Brokers Inc, Rosslyn Virginia.

The Initial Determination was issued by NASA Headquarters, to the requester on August 5, 2014. In a letter dated September 18, 2014, your Appeal was remanded back to HQs with instructions that subsequent to obtaining any objections from the submitter, the NASA Headquarters FOIA Office should determine whether the document should be released in part or in full.

Enclosed is the document released in full.

Please contact Martha Terry at 202-358-2339 or hq-foia@nasa.gov if you require further assistance.

Sincerely,


Josephine Sibley
Headquarters, FOIA Officer

PRESENTATION TO NASA CONCERNING INSURANCE ISSUES RELATED TO THE INTERNATIONAL SPACE STATION

John

INTERNATIONAL SPACE BROKERS, INC.
1300 Wilson Boulevard, Suite 990
Rosslyn, Virginia 22209
Telephone: (703) 841-1334
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January 30, 2001

Website: www.isbworld.com

NASA Headquarters
300 E St. SW
Washington, DC 20546

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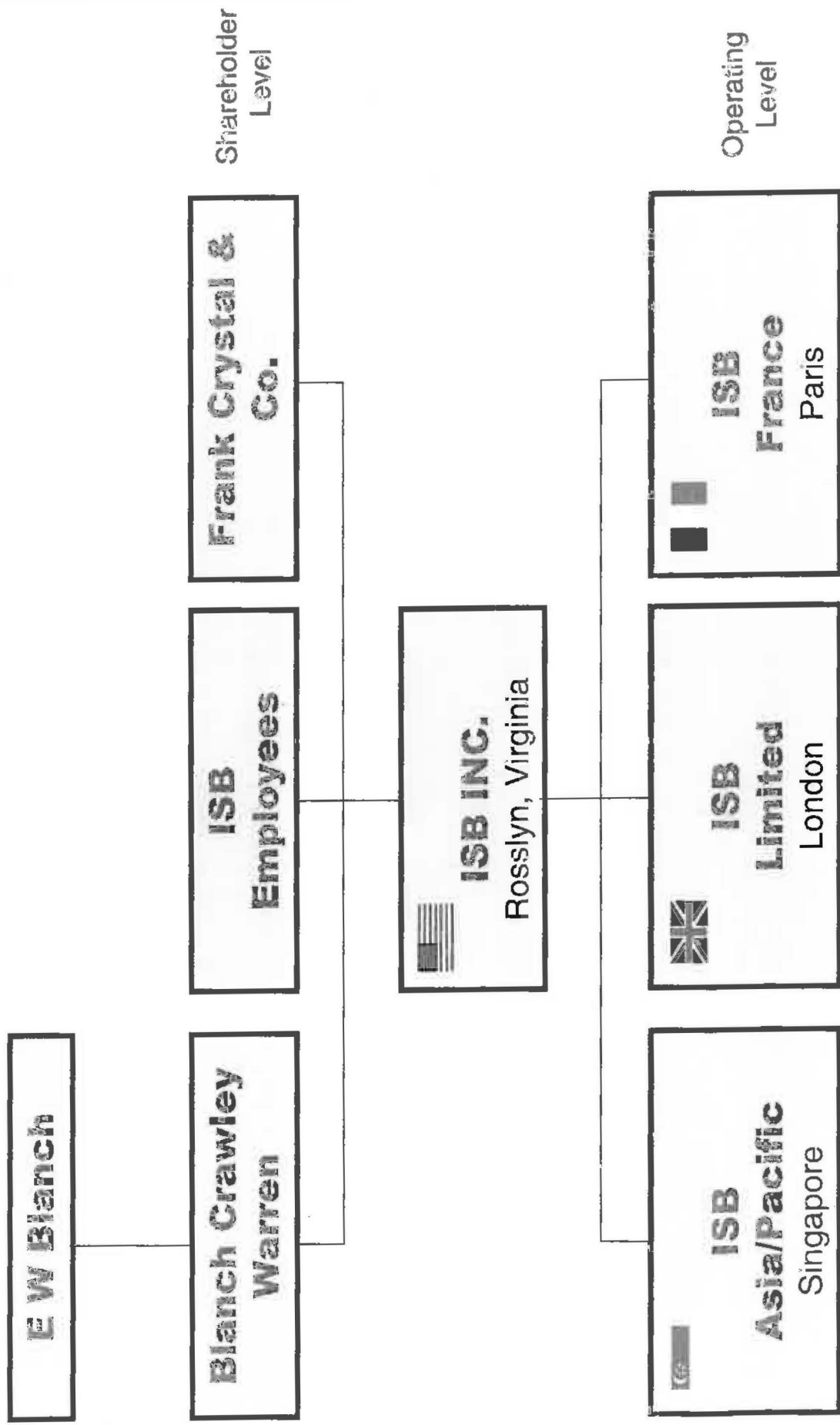
- 1) GOALS AND OBJECTIVES OF THE MEETING
- 2) WHO IS ISB?
- 3) SPACE INSURANCE MARKET
- 4) FIRST PARTY (PROPERTY) INSURANCE
- 5) THIRD PARTY (LIABILITY) INSURANCE
- 6) STS SHUTTLE FACILITY
- 7) SUMMARY AND CONCLUSION

GOALS & OBJECTIVES

- 1) Provide a brief tutorial on space insurance
- 2) Assure NASA and Commercial Users of ISS that a viable and robust insurance market exists
- 3) Provide ideas on how insurance can assist in the commercialization of ISS
- 4) Give NASA ability to intelligently discuss insurance issues with ISS Partners and potential ISS users.

WHO IS ISB?

ISB ORGANIZATION



ISB CURRENT CLIENT LIST

ISB has recently performed risk management services for the following:

DIRECT TO HOME TV

EchoStar (V & VI)
Local TV on Satellite
SES Astra
Agila
Telesat Canada

LOW EARTH ORBIT

DBSI
NSPO (Taiwan)
MegSat
Surrey Satellite

LAUNCH SERVICES

LKE (Proton)
NASA STS Facility
E'Prime Aerospace
Space Access
Kistler Aerospace
ICANO
Kelly Space & Technology

REMOTE SENSING

RAPIDEYE

FIXED SERVICES

INTELSAT
NEW SKIES
Telesat Canada
STAR ONE (nee Embratel/WorldCom)
Telenor
Comsat
Shin Satellite
ChungHwa Telecom
ARABSAT
Singapore Telecom
Satmex
Teleglobe

RADIO BROADCASTING

WorldSpace
XM Satellite Radio

SATELLITE MANUFACTURER

Alcatel Espace (WorldSpace)
SpectrumAstro

BROADBAND/INTERNET

WildBlue

MOBILE

Motorola
Iridium
Motient
Comsat
Teleglobe
TMI (Canada)
Optus

OTHERS

Advanced Technology Assoc.
Space Dev
Microspace
Vanguard
Virginia Commercial
Space Flight Authority

The Space Insurance Market

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~~ISB~~

INSURANCE TERMINOLOGY

Underwriters (Insurers)

Underwriters provide terms conditions and rates for a particular program. They are in a “risk bearing” position, receiving the actual premium and paying any claims. Sometimes they are referred to as Primary Insurers. (see subsequent charts)

Reinsurers

Primary Insurers often purchase insurance themselves to protect against catastrophic losses and/or an accumulation of losses. Reinsurers simply insure Primary Insurers. Reinsurance allows Primary Insurers to increase their capacity, or ability to write larger lines.

Brokers

Brokers, such as ISB, act as intermediaries, bringing insured and insurer together. Brokers are not in a risk bearing position. Brokers receive compensation in the form of fees or commission on insurance placed.

INSURANCE TERMINOLOGY (Cont'd)

1st Party (Property) Insurance

Physical damage coverage for assets either owned or which the Insured has a financial interest. Examples would include buildings, autos, homes and satellites.

3rd Party (Liability) Insurance

Protects the Insured for its legal liability arising from the bodily injury and/or property damage to third parties. An example would be a launch vehicle exploding and injuring or killing people downrange. Liability insurance would protect the Insured from the lawsuits that would inevitably follow.

Capacity

This refers to the amount of risk or exposure an underwriter(s) can assume per risk. In space insurance, several underwriters are used in an insurance placement in order to get adequate capacity.

COMPREHENSIVE SPACE RISK MANAGEMENT PLAN

RISK AND INSURANCE

- RISK**
- Chance or uncertainty of financial loss
 - Pure risk - chance of loss only - insurance
 - Speculative risk - chance of loss or gain - not insurable

RISK MANAGEMENT TECHNIQUES

- Avoidance
- Assumption
- Sharing
- Reducing
- Transfer

INSURANCE

- A device to transfer pure risk contractually from one party to another
- Price (premium)
- Terms and conditions
- Perils covered
- Perils or property excluded

COMPREHENSIVE SPACE RISK MANAGEMENT PLAN

FUNDAMENTAL PREMISE OF INSURANCE

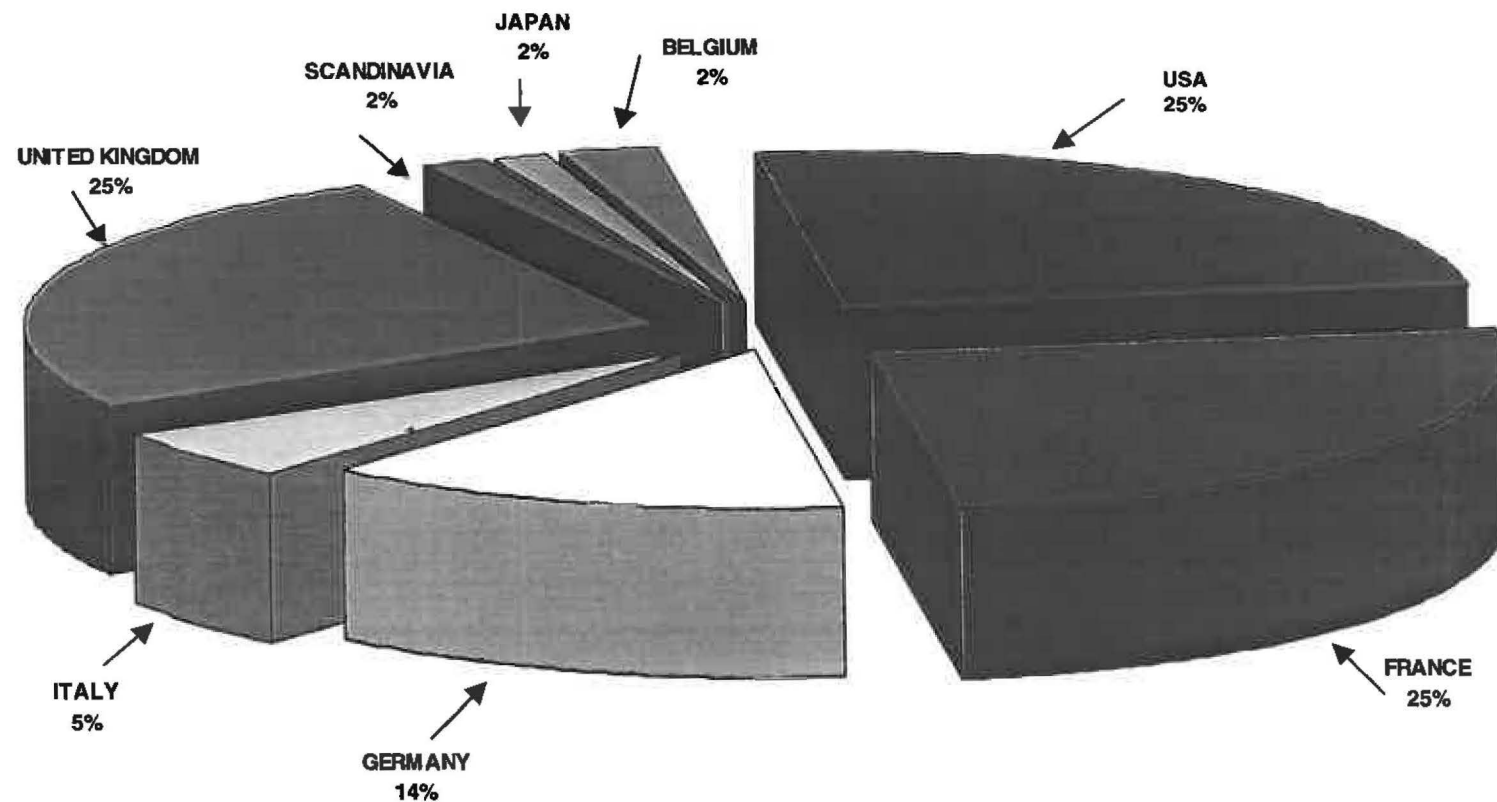
- Premiums of the many pay for the losses of the few

OTHER REQUIREMENTS TO BE SATISFIED

- Loss must be unexpected (fortuitous) and accidental
- Cost must be affordable
- Risk must be calculable
- Law of large numbers applies
- Loss must be definite in time and place
- Risk must be noncatastrophic

Launch and In-Orbit (1st Party Coverage)

ISB WORLD WIDE LAUNCH MARKET CAPACITY



2001 Total Market Capacity USD 937,700,000

MAXIMUM LAUNCH AND EARLY ORBIT MARKET CAPACITY

	Market Capacity		Market Capacity
<u>FRANCE</u>	<u>238,200,000</u>	<u>UNITED KINGDOM</u>	<u>239,000,000</u>
AGF	95,000,000	ACE Global Markets	20,000,000
La Reunion Spatiale	70,000,000	MARHAM Consortium	60,000,000
SCOR	65,000,000	HISCOX	50,000,000
Others	8,200,000	Watkins, Lloyd's Syndicate	9,000,000
		AIG	25,000,000
<u>GERMANY</u>	<u>127,000,000</u>	GUAM (formerly BAIG and AAU)	20,000,000
Deutscher Luftpool	12,000,000	"Others"	25,000,000
Munich Re	55,000,000	Generali	30,000,000
Bavarian Re	25,000,000		
Hannover Re	25,000,000		
Others	10,000,000		
		<u>UNITED STATES OF AMERICA</u>	<u>231,000,000</u>
<u>ITALY</u>	<u>50,000,000</u>	AXA Space	65,000,000
SATEC	50,000,000	USAIG	31,000,000
		BIS / Brockbank	75,000,000
		ACE USA	60,000,000
<u>SCANDINAVIA</u>	<u>15,000,000</u>		
If... Skadeforskikring	15,000,000	<u>JAPAN</u>	<u>15,000,000</u>
<u>BELGIUM</u>	<u>22,500,000</u>	<u>TOTAL</u>	<u>USD 937,700,000</u>
Aviabel	22,500,000		

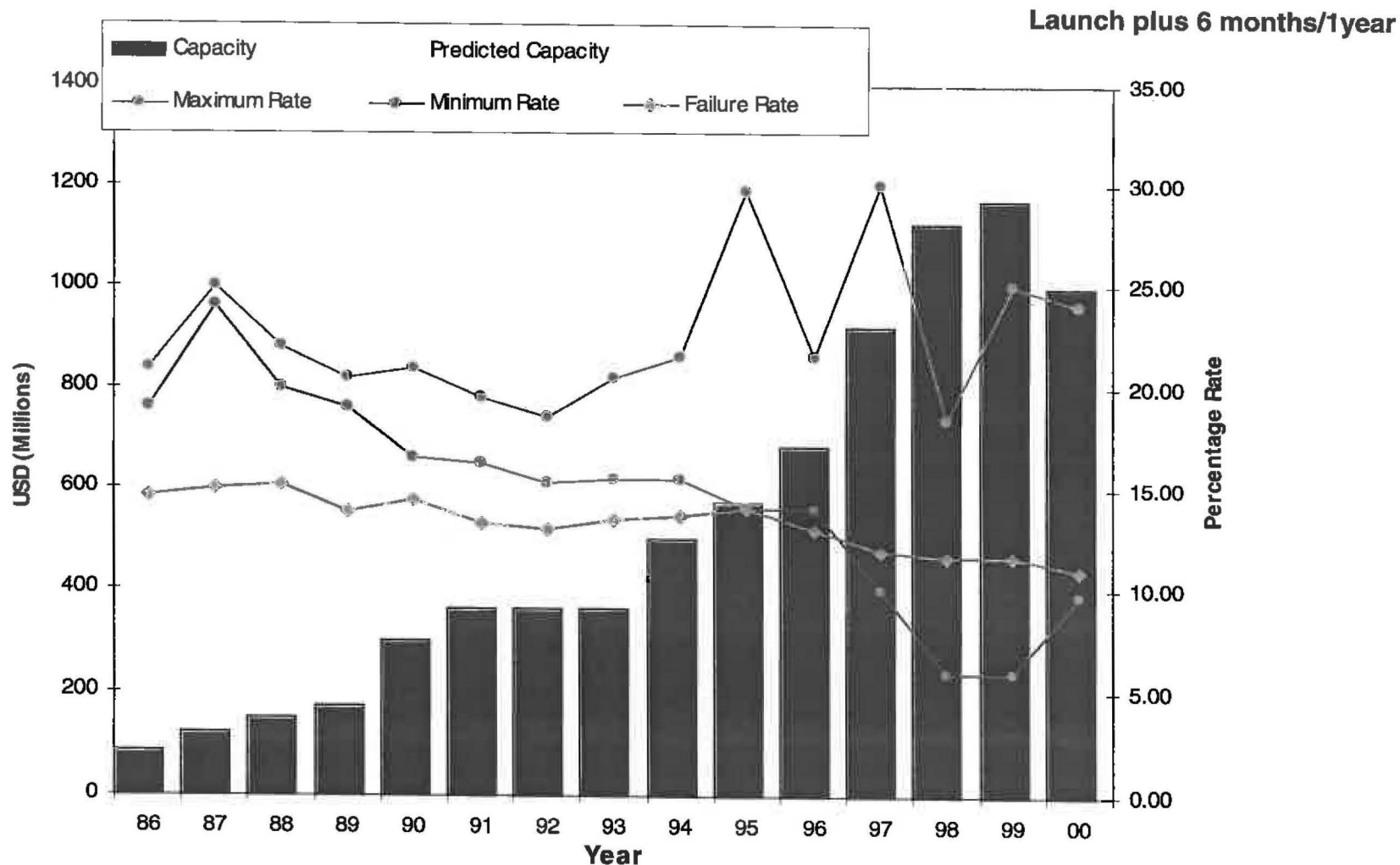
ACTUAL CAPACITY UTILIZED

- LAUNCH — US\$ 400,000,000 per risk (Approx.)
- IN-ORBIT — US\$ 250,000,000 per risk (Approx.)

Compare Leading Markets Stated Maximum VERSUS Likely Maximum Used on Any One Launch

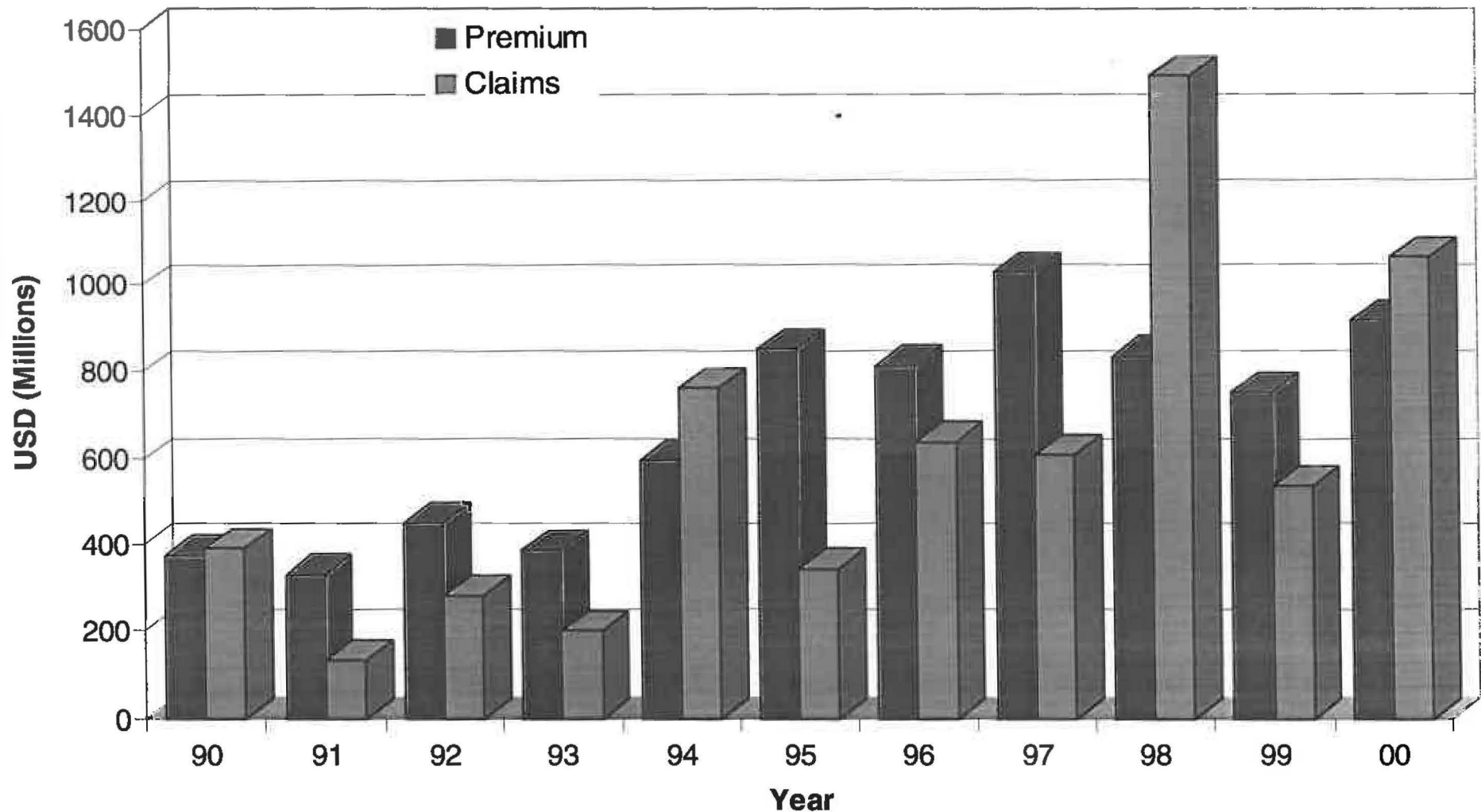
	<u>Stated</u>	<u>Likely Max.</u>
AGF	95 M	50 M
La Reunion	70 M	25 M
SCOR	65 M	25 M
Munich	55M	55M
Generali	30M	15 M
Marham	60 M	30 M
Hiscox	50 M	20 M
AXA Space	65 M	35 M
USAIG	31 M	10 M
Brockbank	75 M	25 M
ACE	60 M	30M
TOTAL	656 M	320M

MARKET CAPACITY AGAINST PREMIUM RATE/FAILURE RATE



The Failure is based on Total Loss and Constructive Total Loss for Commercial Communications Satellites.
 The data for "Fail Rate" is based on the number of satellite failures against the number launched from 1986 on an "all time" basis.

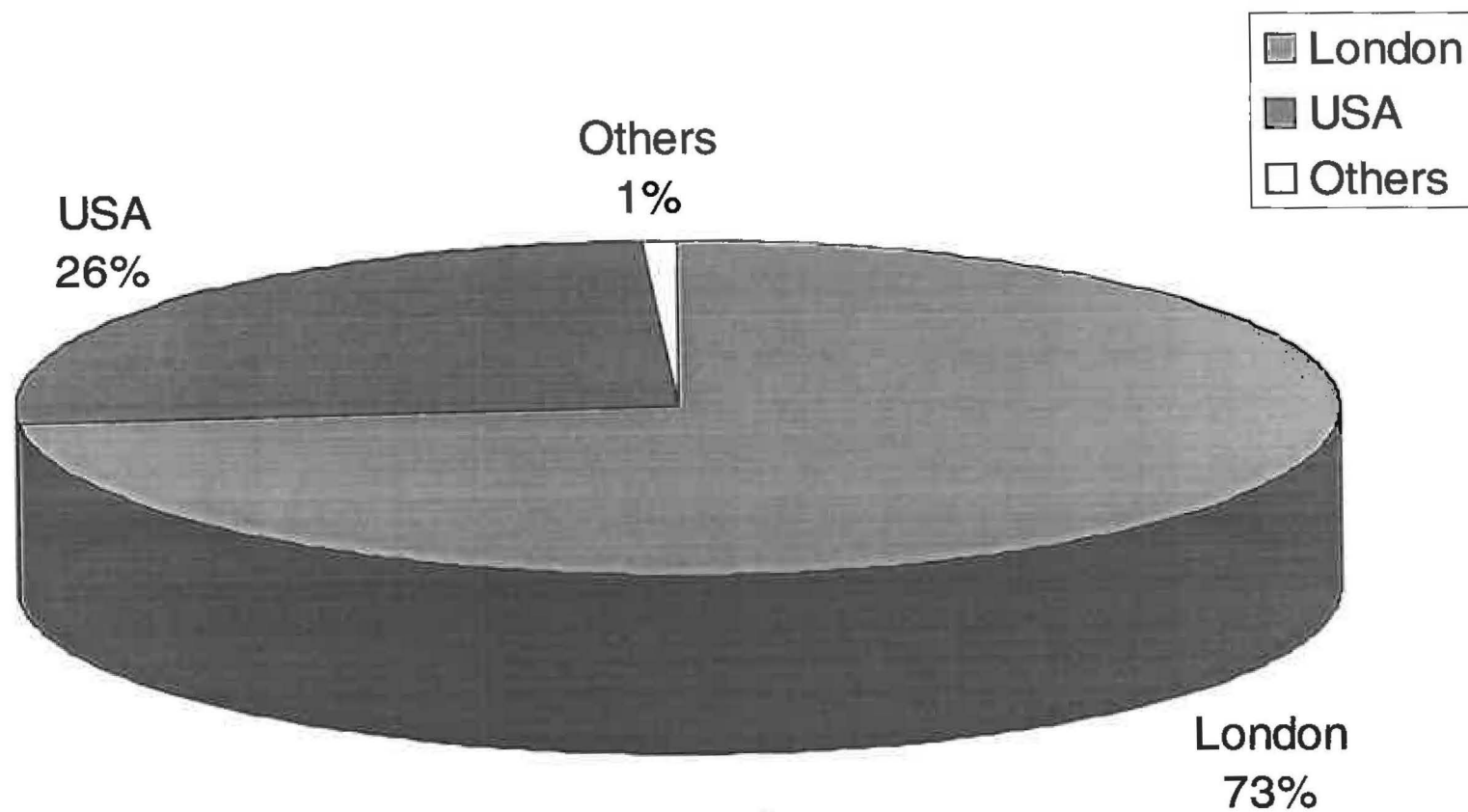
ISB APPROXIMATE LAUNCH & IN-ORBIT PREMIUM & CLAIMS HISTORY SINCE 1990 (Major Losses)



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Liability (3rd Party Coverage)

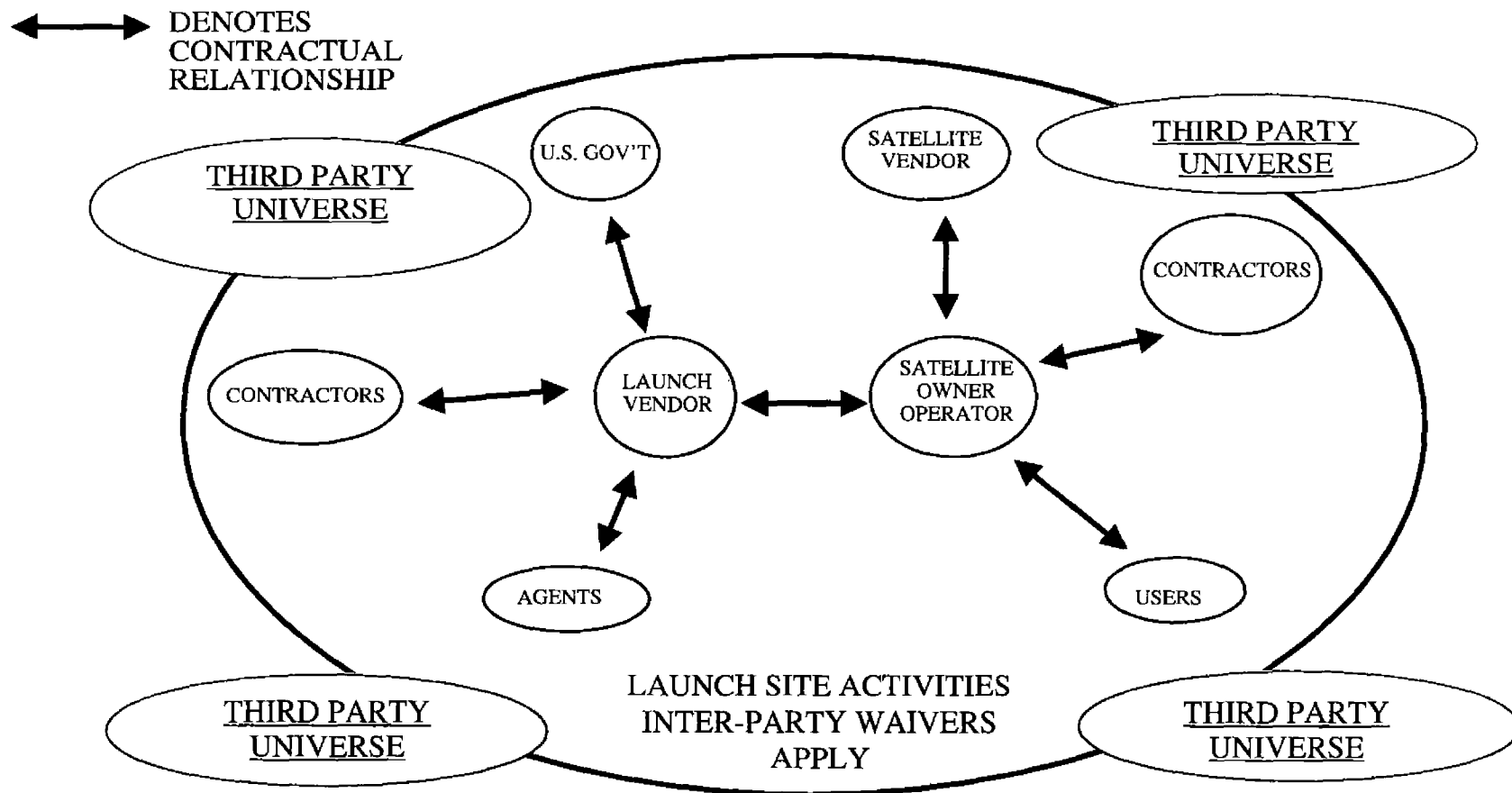
MAXIMUM THIRD PARTY LIABILITY CAPACITY

2001 Total Market Capacity USD 2,130,000,000

ISB MAXIMUM THIRD PARTY LIABILITY CAPACITY

	Maximum of...			Total
LONDON				
ACE Global Markets	30%	or	\$250,000,000	
Westminster Aviation Insurance Group	15%	or	\$100,000,000	
American Insurance Group (AIG)	50%	or	\$500,000,000	
Global Aerospace Underwriting Manager (AAU and BAIG)	20%	or	\$150,000,000	
HISCOX	3%	or	\$15,000,000	
Wellington	25%	or	\$200,000,000	
Amlin	25%	or	\$100,000,000	
Wren (aka Marham)	10%	or	\$50,000,000	
Chartwell	10%	or	\$125,000,000	
Chaucer	5%	or	\$35,000,000	
KILN	25%	or	\$35,000,000	\$1,560,000,000
United States				
Brockbank	30%	or	\$100,000,000	
USAIG	22.50%	or	\$450,000,000	\$550,000,000
Others				
Hannover Re	20%	or	\$10,000,000	
La Reunion Spatiale	5%	or	\$10,000,000	\$20,000,000
				\$2,130,000,000

U.S. LAUNCH VEHICLES



STS Shuttle Facility

STS LIABILITY INSURANCE FACILITY

Background

Since early eighties, NASA recognized insurance market limitations and problems associated with settling claims

Inter-Party Waiver arrangement between all parties developed:

- commercial users have risk of loss for their property or people
- commercial insurance purchased by users

NASA bore risk of loss for Government property, including orbiter:

- insufficient capacity at reasonable price did not exist
- NASA/US Government is/was "self-insured"

Commercial users were required to purchase Third Party Liability (TPL) insurance:

- \$500,000,000 to be shared by all users on a flight
- alternatively, the amount to be purchased could be reduced to the amount of insurance available in the world market at a reasonable price
- No Government indemnification as is the case with the CSLA

Liability insurance facility set up in the 1983 timeframe:

- administered by International Technology Underwriters (now AXA Space)

- facility is co-brokered on an alternating year basis by ISB London and Marsh London
- sanctioned on non-exclusive basis by NASA
- available on non-discriminatory basis by all STS users and their insurance brokers
- NASA benefits from a simple and streamlined facility already in place

Policy Terms and Conditions (Overview)

Insuring Agreement

- pay on behalf of the Insured sums the Insured shall become legally obligated to pay third parties
- arising out of the contractual obligation of the parties to the Launch Services Agreement
- shall include payments arising from the Convention on International Liability for Damage Caused by Space Objects

Insured Parties

- Such Customers or Users of the Shuttle Mission
- The United States Government, its contractors and subcontractors

Limit of Liability

book for dedicated shuttle launch

- US \$500,000,000 arising out of any one Occurrence
- Sub-limit of US \$25,000,000 in the aggregate in respect of liability to Crew Members
- Warranted that personal accident cover in the amount of US \$2,000,000 per Crew Member is in effect

The current policy runs from December 1, 2000 to December 1, 2001

Summary & Conclusion

Insurance community has been an essential element in development of commercial space

- Unfortunately, while insurance market is robust, it has limitations

On liability side, an ISS facility similar to STS Facility appears to make sense

- Would protect users as well as governments under Outer Space treaty.
- Consistent with US regulatory objective

On property side, a property facility could also make sense if very high value property is on ISS

- Management of limited insurance capacity is crucial
- Transportation of commercial hardware to/from ISS may or may not be an issue depending upon circumstances