A CLOSED SYSTEM FOR CURRENCY FLUCTUATION CONTROL

by LeRoy J. Simon

BIOGRAPHY:

Mr. Simon has been an Executive Consultant in Coopers & Lybrand's Casualty Actuarial and Risk Management Consulting group since November 1987. He began his career with eight years at Mutual Service Insurance Companies followed by eight years at Insurance Company of North America The next six years were as General Manager of the National Insurance Actuarial and Statistical Association — a research organization in the property insurance field. He also spent 17 years with Prudential Reinsurance Company as Senior Vice President immediately prior to joining C&L. He served as Chairman of the Foreign Credit Insurance Association and of American Nuclear Insurers (and in addition was Chairman of its Foreign Operations Committee 1982-7). He was President of the CAS in 1971-2 and has served two terms on its Board. He is also a Member of the American Academy of Actuaries and has served on its Board. He has served on the ASTIN Committee since 1973 and was its Chairman for 1974-8. He has also served on the Counseil de Direction of the International Actuarial Association (Brussels) since 1974. He is a charter member of the Society of Insurance Research, served as its fourth president in 1973 and is now on its Board. He graduated from the University of Minnesota with a Bachelor's degree in mathematics in 1948 and a Masters in statistics in 1949.

ABSTRACT:

When an insurer accepts risk where the loss may have be incurred in a foreign currency, it is exposed to the additional risk of currency fluctuation. Normal strategies for handling this risk are discussed. A procedure is then outlined whereby entities (insurers, reinsurers, self-insureds, or, specifically in this case, nuclear insurance pools) can create an automatic, reciprocal reinsurance system which will greatly reduce this risk. An experimental run of the system is illustrated in detail. There is little doubt, in the author's opinion, that the system can be adapted to a variety of situations and has the potential to significantly reduce the risk of loss created by the currency fluctuation risk.

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When an insurer or reinsurer accepts a risk where a loss under the contract may have to be paid in a foreign currency, the underwriter is exposed to currency fluctuation risk. To avoid the repetition of the distinction between insurance and reinsurance, we will address this topic from the single viewpoint of reinsurance transactions. Further, we will consider it from the perspective of a company whose base currency is U. S. Dollars (US$). However, with little or no translation, it will be seen to apply equally well to the primary insurance transaction and to any base currency.

Normal Strategies

First let us consider some of the usual strategies a company might apply to reduce or avoid the currency fluctuation risk.

The most common strategy, particularly for companies having only small amounts of foreign risk exposure, is to do nothing. Premiums are converted to the domestic currency when cash is received. At some future date when a loss is to be paid, the foreign currency is purchased. This does not avoid any problems, it merely allows them to surface when the transactions are made.

To try to avoid problems with foreign currencies one might insist that the contract be denominated in US$. This passes the premium payment currency fluctuation risk from the reinsurer to the primary company. However, the loss side of the contract continues to present currency fluctuation risk to the reinsurer. Unfortunately, that is where the big

currency fluctuation risk really is. If the contract is proportional, the loss is translated to US$ at the time of payment so the amount of US$ needed to pay it depends on the rate of exchange at that time. If the contract is excess of loss, the same reasoning applies but, in addition, the attachment point, while fixed in US$, will fluctuate in the local currency. While you assumed you were underwriting a risk attaching at 1 million local currency units (LCUs) which may have translated to 100,000 US$ at inception, you now find that you are attaching at 850 thousand LCUs because the rate of exchange moved 15%. Of course, you still attach at 100,000 US$ but are now paying on losses between 850 thousand and 999 thousand LCUs where you would have paid nothing had the currency not moved. Denominating contracts in US$ does not eliminate the currency fluctuation risk.

Another strategy to try to reduce currency fluctuation risk is to write contracts in the normal way — denominated in the local currency — and buy assets (that is, bonds or other investment vehicles) in that currency in an amount equal to your liabilities in that currency. This is a good strategy if you have a known debt in a foreign currency and wish to protect it against further currency fluctuation. Suppose a factory burns in Cologne and there is no doubt in your mind that it is a total loss (let's say both property and loss of profits coverages are involved). You might invest funds immediately in Deutsche Marks equal to the total loss. Then, as the loss translates to more or less US$ on your balance sheet due to currency fluctuation, so does your investment and the two offset each other. Assuming a sound investment strategy, the only cost is the transactional cost of buying the investment and liquidating it as payments come due. The same is true if you have a very large portfolio of stable insurance business. Then the matching of liabilities in a

given currency with assets in that same currency is a possible strategy. Unfortunately, few if any companies have such a portfolio. On smaller portfolios or for the occasional piece of business in a particular currency this system is not workable at all. How much business can a US company have in Swedish Krona? The largest liabilities in that currency are usually the unearned premium reserve and the incurred but not reported reserve. Each of these represents a reserve providing for losses to become known and paid in the future, but only on a probabilistic basis — a future contingent event. If the loss does not materialize, the purchase of assets in that currency has introduced currency fluctuation risk to the company. So, we must conclude that the matching of assets and liabilities in the insurance environment may be better than doing nothing, but it is not a neat, clean solution to the currency fluctuation problem. The currency fluctuation risk is still there, reduced in some cases, but increased in others.

A last strategy to avoid currency fluctuation risk we will discuss here is hedging; that is, buying a forward currency contract today for delivery of a certain number of local currency units at some future date. This would be an alternative in the previous example instead of investing funds in the local currency. It would be effective for a known payable and will work best if the payment date is also known so the liquidation of the contract would coincide with your payment of the loss. Knowing the exact date on which a loss is going to be paid once one knows the amount of it, is not always the easiest thing (unless the interval between knowing the amount and the date of payment is just a day or two). However, our business is based on contingent future events and what we want is a contingent purchase of a given amount of foreign currency. A search for such a product in the mid-80's failed to find a bank willing to venture on that basis. If it were

available, the transactional cost would be the only cost of protecting oneself, but that would probably be significant. After all, we would be asking the bank to become part of the risk transfer process, not only with respect to the chance of an unfavorable currency fluctuation, but also with respect to the happening of the event itself.

In summary, then, if your exposure is in a foreign currency, you cannot avoid currency fluctuation risk although you can reduce its impact under certain situations.

An Example

This is the situation faced as well by the American Nuclear Insurers (ANI) Foreign Pool. The ANI Foreign Pool secures commitments from US companies of US$ of capacity to use in reinsuring other nuclear pools around the world. This is a reciprocal operation in that other nuclear pools throughout the world garner capacity from their domestic companies and reinsure foreign (to them) nuclear pools, including, of course, ANI in the US. While the analogy will not quite be perfect, one could generalize this situation to the operations of individual companies in various countries operating on a world wide basis and applying the scheme outlined below on a mutually cooperative basis, administered by a disinterested party. Not that the reciprocal nature of the nuclear pools' reinsurance of each other is not balanced. A country with a small domestic insurance market might get 90% of the risk covered by other pools while another country might only have 50% covered by others.

Now let's take an example from the ANI Foreign Pool standpoint. On January 1 we are asked by the Swedish pool to give our maximum capacity to one of their nuclear power plants. Assume ANI has 100 million US$ of capacity available. Let's suppose this is a first class risk, the demand for cover is insatiable, and we opt to lay down the entire

100 million US$ on the risk. At that point the exchange rate of 7.560 Swedish Krona (SKR) to 1 US$ means that we will extend coverage for 756 million SKR. Some time later that year we review our exposures and find that the 756 million SKR now presents us with an exposure of 111.14 million US$ because the exchange rate has now gone to 6.802. (Note: These exchange rates are actual exchange rates as shown in Exhibit 1.) We are thus "overlined", and if a total loss were to happen now, our members would be more than a little unhappy. They felt they were committing to their share of 100 million US$ but were now being asked to pay 111% of the amount for which they thought they were committed.

To protect against this overlining possibility, each pool holds back a certain amount of capacity with a typical figure being around 15%. Hence in our example, ANI would have a capacity of 100 million US$ but would only commit 85 million US$ on the plant in Sweden. This translates at inception to 642.6 million SKR. At the new exchange rate we would find ourselves exposed to only 94.5 million US$ — still safely within our 100 million US$ of committed capacity. However; notice that in the process we have lost nearly 5 million US$ of the capacity since, if we had committed 90 million US$ at inception, the new exchange rate would bring that to 100.03 million US$ — not noticeably different from the 100 million US$ commitment from our companies. Thus we found that ANI and most other pools were holding back about 15% of the worldwide capacity commitments they had received from their constituent member companies to protect themselves against adverse currency fluctuation. In most cases this is overly conservative and results in substantial amount of worldwide capacity being "banked." A method to release that capacity was sought.

The formal name of the proposed solution is "The International Nuclear Insurance Overlining Reinsurance Scheme" or, more informally, "The Scheme." Its goal is to narrow significantly the amount of unused capacity to a target of 5%. This would recognize that The Scheme is not complete protection against every eventuality but would cover most currency fluctuation situations and completely eliminate the overlining problem in those instances. No system is foolproof, however, and it is conceivable that this one could occasionally permit an overlining as well. Knowing that human nature encourages pool management to be conservative in this area while public pressure for protection is encouraging them to be aggressive, we suggest that each pool move from the 85% level to 95% when they joined The Scheme. This still allows an extra 5% cushion of protection beyond that inherent in The Scheme. There is considerable leverage in The Scheme. Any given pool actually has, in most instances, more protection against overlining than under the old procedure of standing alone while holding back 15%. One might also think of retaining in a separate account, the additional funds generated by these extra 10 percentage points of cover. Those retained funds would be a direct result of The Scheme and could act as an additional buffer.

Implicit in the philosophy that one wishes to commit a maximum line to every risk that meets the underwriting criteria is the belief that the business is profitable. This will be assumed true in all instances where The Scheme is to apply — in other cases one would be better off not insuring the risk at all, of course.

Finally it is a rather simple matter to envision The Scheme applying in a different environment where facultative risks are declared to the system by a number of primary insurers operating under an agreement similar to that implied by The Scheme. There is

every chance that it could operate successfully there too since there is little incentive to try to misuse the system.

The Scheme

We have created a systematic procedure ("The Scheme") by which nuclear insurance pools may voluntarily sign up to reinsure each other under a uniform set of operating rules. They will automatically cede and assume capacity in various currencies to cover each other as needed because of fluctuations in currency exchange rates. This is a "win/win" situation in which there are no losers because those who buy coverage need it to eliminate overlining due to an unfavorable currency fluctuation while those who sell coverage have capacity available due to a favorable currency fluctuation. In addition, The Scheme would encourage every pool to put down capacity which they were holding back to protect against possible overlining. If pools moved up to use 95% of their capacity from a position of only using 85% of it, we would have an across-the-board increase in available capacity on foreign risks of 12%!

The concept is simple — keeping your thinking straight is the difficult part. The solution presented involves the use of a personal computer program which starts with each of the 22 Pools around the world joining The Scheme. This is done when the pool notifies The Scheme's Administrator before the beginning of the year of the maximum capacity (in its domestic currency) which it is capable of putting down on a foreign risk under the best of circumstances. (See Exhibit 2 for the form in which this notification is made.) This amount is not committed on any particular risk in The Scheme. Rather, it is used as a measure of how much foreign currency will be available for sale to other Pools when the currency fluctuation is favorable for the capacity contributor. Once a Pool

has joined The Scheme, it is then eligible to receive payments of premium when it has available capacity due to favorable currency fluctuation and that capacity is used. Further, it is eligible to declare risks to The Scheme.

Declaring a risk to The Scheme simply involves identifying the specific risk (facultatively) and the amount committed in the foreign currency on that risk. (See Exhibit 3 for the form on which these declarations are made.) Any number of risks in any country can be declared to The Scheme by a Pool which has joined.

The Scheme then matches up the needs of those who are overlined and those who have additional capacity in the same currency as the result of favorable currency fluctuation and those who have automatically does the buy and sell transactions to cover the declared risks. These evaluations are made weekly using currency rates published in The Wall Street Journal on the first business day of the week in the U.S.A. (See Exhibit 1.)

Exhibit 4 converts the vector of exchange rates on a given date (January 2, 1986 at the top and December 29, 1986 at the bottom) into a matrix of interrelated exchange rates implied by the US$ vector. We realize that this is not exactly what happens in the real world of currency exchange. However that is the goal which arbitragers enforce on the system. If interrelationships stray too far from this "proper" basis, the arbitrager will step in and exploit the situation and thus force the rates back toward appropriate levels. For our purposes any anomalies in the real world are not so important to The Scheme since our premium transactions are relatively small. Nor are we concerned with the transaction- al costs since this is mainly a mutual exchange with minimal charges only designed to offset cost of operating the system. If there is a loss we expect each pool to follow its

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normal strategy for protecting itself against future currency fluctuations once a loss is, more or less, fixed in amount.

To further the illustration, Exhibit 5 details how the currencies have changed between the dates of the two matrices in Exhibit 4. A positive number in that matrix means that you can buy more of the currency at the head of the column using the currency of the country at the left of the row at the current time (t_1) than you could have at inception (t_0). The computer program operates on the principles illustrated by Exhibit 5. However, it does not actually use a process which would call for the time consuming and space wasting procedures of determining any of these matrices.

Live Operation

Admittedly, The Scheme is not perfect because the world currencies do not represent a perfectly closed system where pluses and minuses offset each other. The nuclear plants of the world are not evenly distributed in insured value with respect to each currency either. Thus we would not expect to find that the needed capacities to cover potential overlines are exactly matched by the capacity which is available due to favorable currency movement.

For those reasons, a test of The Scheme was run by the Administrator as though only the pools shown in Exhibit 5a were involved. The test ran for the first 13 weeks of 1986 using the actual currency rates during the period and using selected, but realistic, Maximum Capacity declarations and risk declarations. The selections of capacity commitments to The Scheme are shown in Exhibit 6. For example, Britain is to have 20 million Pounds Sterling available. Exhibit 6 then illustrates how those Maximum Capacities provide Available Capacity when the currency change is favorable and how the countries

need capacity to cover overlining when the change is unfavorable. The calculations are based on Exhibit 5a and the vector of Maximum Capacities. Exhibit 6 shows, for example, that France can provide 3,298 thousand PS of capacity if needed. This amount would be used on each risk declared to The Scheme in PS and would be proportionally used depending on the availability of PS capacity from all the participants. Note that U.S.A. is the only one needing PS at this moment. Conversely, if Britain has declared a French risk to The Scheme, it needs FF of capacity if available. The amount of capacity sought by Britain is a function of the amount of FF declared on that particular risk. For example, it may have put down 19 million PS (95% of their maximum capacity available) on January 1 which was a commitment of 206.3647 FF (at the 10.8613 exchange rate at that time). The December 29 exchange rate of 9.4507 means that they need 21.8359 million PS to cover their commitment and they are overlined by 2.8359 million PS or 26.8014 million FF at current exchange rates. Altogether, Japan, Switzerland and Germany have 123,094 thousand FF available due to favorable currency movement so each would provide 21.77% of their available capacity (assuming that Britain was the only country declaring this particular risk to The Scheme).

Risks may be declared to The Scheme by any pool that has joined by submitting Exhibit 2. It is only necessary to complete Exhibit 3 giving the information on which risks the pool wants currency fluctuation protection, to what amount they are committed on each particular risk, and when the cover is to attach and to expire. For the test run certain risks were declared to The Scheme as illustrated in Exhibit 7. These risks are based on realistic situations but are selected for the purpose of demonstrating certain

features of the plan when given sites are declared by a number of pools. The risk names are fictitious.

The Scheme is run weekly and cover is provided automatically for that week. Coverage is on an Excess of Loss basis with a base rate for the cover of 80 units of currency per million units of cover provided for one week. (Actually, the buyer and seller each pay 4 units to the Administrator to defray the cost of running the system.) This is a universal premium rate and is somewhat higher than the average rate implicit in the rating of nuclear generating plants. Consequently there should be no incentive for anyone to write a larger line than they normally would and to pass part of the risk off to others, thus realizing a profit on the transaction.

Each Pool that has signed up for The Scheme, whether they are involved in specific transactions or not, receives a weekly report (see Exhibit 8–8a) of all the buy and sell transactions for the week. This normally runs one or two pages of printout. The report also acts as a control because it details the risks that are not currently within the effective/expiration dates. It also lists those risks that did not need coverage due to favorable currency fluctuations. These reports will be mainly used for notification of what cover is in force in the event of a loss. Remember this coverage is on an Excess of Loss basis and thus would only be called into play as the last amounts were being paid out (in the local currency of the risk) and the reinsuring pool had to call upon the cover to make good for the shortfall they experienced (measured at the time the loss occurred) due to an unfavorable currency fluctuation. The weekly printouts can also be used to check on the proper functioning of the system, but that is a difficult, complex and time-consuming operation.

Each Pool receives a complete, detailed billing quarterly (see Exhibit 9) covering all transactions (both buying and selling) in which that Pool has been involved during the past quarter. It is a summary of the 13 weeks of transactions that affected that Pool. The Scheme is run by an Administrator who receives a modest fee to cover expenses and maintenance of the program. In addition to both the buyer and seller contributing 4 units of currency per million of cover per week, there is a 1 US$ charge per week for having a risk in the system and a 100 US$ single shot fee for submitting a risk for coverage. This is not to be a profit making (or loss producing) operation for the Administrator and the fees would be adjusted if the volume of business showed it was necessary.

Finally, Section D of Exhibit 9 summarizes the net amount payable or receivable and is the basis for payment to or by the Administrator who would take in the amounts due and would disburse the payments owed, retaining only those amounts representing its charges for running the system. Exhibit 10 is a summary of this activity for the quarter of the test including all 13 weeks and all seven countries.

During the 13 week period that the test was run, we found that some 75% of the needs of participating Pools were covered by the other cooperating Pools. If the full 22 countries actually participated one would expect that this percentage would be even higher. If one compares the former situation of holding back 15% of each country's capacity with only holding back 5%, the additional cover produced by this relatively simple scheme certainly seem to make it worthwhile. Hence, we concluded that The Scheme did fulfill its intended function and it was appropriate to move to the next phase.

The next step in its development would be to have a multi-pool trial in which the pools themselves filled out the various forms as though the operation were live. However

in this phase we would still be running the system for trial purposes. This should both give a realistic environment and create a greater understanding for the way in which is helps solve the overlining problem. This phase of the plan was about to be launched when the principal proponent of The Scheme undertook different activities in his business career and this phase was never undertaken.

The final step in the process would then have been to go live with the system. There is no doubt of its potential to make more capacity available on nuclear risks while simultaneously reducing the risk of being overlined.

The conversion of the philosophy of The Scheme to a primary insurance setting involving non-nuclear risks should be straightforward. One way to do it would be for a number of interested companies based in various countries to designate one of their number (or possibly an outside party) to be the Administrator of the program. Each company would nominate the capacity they would sign up for in their domestic currency. Once signed up, a company could declare any number of risks to The Scheme that it chose. This would be done facultatively so that it could be controlled and thus would be very close to the nuclear case. Ultimately there might be a way to move to some sort of blanket cover which would then extend beyond the nuclear example.

Another alternative would be for one company with a worldwide network of insurance operations to offer this system on a for-profit basis. Each of their local offices which had bottom line responsibility for their insurance activities would declare an amount of capacity that they would make available in their local currency. Then any insurer which had made a contractual agreement with the sponsor of the system, could declare a risk which had its exposure denominated in any one of these currencies. The fee schedule would be

constructed differently in this case to be sure that the fixed costs, the overhead, and the pure premium element were each amply covered. It should also discourage trivial risks from being declared. There would probably have to also be a control mechanism so that the operator of the system did not get too many risks declared in one currency. The problem of accumulation should not be so great, however, since the losses to the local operation would only arise when their currency was in a favorable relationship to the currency of the country from which the risk was declared and they would, as before, be excess over the original policy.

These two examples of using The Scheme have not been subject to thorough investigation, but certainly could be developed further if an interest was evident.

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Exhibit 1

CURRENCY VALUES AGAINST THE US$
Selected Countries Among the 22 Nuclear Pools

	Belgium	Brazil	Britn	Finland	France	Italy	Japan	Nthrlnd	S.Korea	Spain	Sweden	Switzr	Taiwan	Germany
	BF	CRZ	PS	FM	FF	LRA	YEN	GLD	KWN	PTA	SKR	SF	TW$	DM
01/02/86	49.820	10.135	.6850	5.3875	7.4400	1655.0	198.60	2.7470	891.4	152.30	7.5600	2.0415	39.89	2.4235
01/06/86	50.000	10.400	.6978	5.4100	7.4965	1666.0	201.80	2.7530	890.6	152.80	7.5800	2.0685	39.87	2.4470
01/13/86	50.400	10.400	.6920	5.4475	7.5500	1679.0	202.55	2.7750	890.6	154.25	7.6525	2.0875	39.87	2.4595
01/21/86	50.130	10.400	.7087	5.4555	7.5410	1670.0	202.35	2.7645	890.6	153.50	7.6200	2.0855	39.63	2.4592
01/27/86	49.130	11.442	.7202	5.3850	7.3925	1635.0	195.93	2.7090	891.3	151.10	7.5525	2.0375	39.53	2.4050
02/03/86	49.050	11.442	.7210	5.3720	7.3460	1630.0	191.45	2.7100	891.3	150.50	7.5550	2.0320	39.53	2.3988
02/10/86	48.810	12.600	.7082	5.3225	7.2990	1621.0	187.60	2.6960	888.5	150.00	7.5025	2.0000	39.33	2.3820
02/18/86	47.910	12.632	.6988	5.2550	7.1335	1687.0	180.07	2.6465	887.0	147.65	7.4150	1.9200	39.28	2.3235
02/24/86	46.750	13.112	.6777	5.1600	6.9725	1554.0	181.50	2.5825	885.6	144.00	7.2800	1.8960	39.16	2.2700
03/03/86	45.550	13.770	.6913	5.0775	6.8145	1506.3	179.50	2.5080	884.5	140.40	7.1675	1.8765	39.01	2.2140
03/10/86	46.670	13.770	.6927	5.1600	7.0025	1549.0	180.40	2.5740	884.5	143.65	7.2875	1.9320	39.01	2.2755
03/17/86	45.960	13.770	.6824	5.0925	6.9170	1526.0	175.55	2.5360	884.7	141.65	7.1875	1.8845	39.10	2.2500
03/24/86	46.700	13.860	.6766	5.1450	7.0850	1552.0	179.38	2.5780	883.6	143.70	7.2550	1.9420	38.94	2.3125
03/31/86	48.000	13.770	.6748	5.1800	7.1995	1591.0	177.65	2.6200	883.6	145.55	7.3400	1.9490	38.94	2.3450
04/07/86	48.780	13.810	.6866	5.3325	7.6175	1635.0	182.73	2.6990	885.3	151.40	7.4950	2.0125	38.76	2.3920
04/14/86	46.880	13.770	.6752	5.1950	7.3400	1582.4	178.55	2.6010	885.3	145.90	7.3225	1.9300	38.76	2.3070
04/21/86	45.000	13.770	.6598	5.0075	6.9940	1512.0	171.05	2.4875	886.9	140.10	7.1100	1.8350	38.61	2.1930
04/28/86	44.130	13.860	.6416	4.9000	6.8925	1484.0	167.00	2.4400	884.5	138.00	6.9900	1.8040	38.57	2.1625
05/05/86	44.500	13.860	.6472	4.9280	6.9500	1494.0	165.20	2.4530	884.5	138.45	7.0125	1.8250	38.57	2.1825
05/12/86	44.350	13.860	.6464	4.9475	6.9140	1491.0	160.55	2.4472	886.7	138.15	7.0200	1.8170	38.50	2.1715
05/19/86	45.130	13.860	.6510	5.1340	7.0190	1518.0	166.30	2.4905	885.6	140.55	7.1050	1.8425	38.41	2.2045
05/27/86	46.430	13.840	.6633	5.2225	7.2355	1557.0	168.90	2.5570	887.6	145.20	7.2550	1.8810	38.33	2.2740
06/02/86	47.300	13.770	.6770	5.3400	7.3885	1588.0	174.85	2.6125	889.2	147.95	7.3600	1.9220	38.25	2.3205
06/09/86	45.570	13.840	.6673	5.1859	7.1420	1532.0	168.23	2.5155	889.8	142.95	7.2050	1.8475	38.14	2.2425
06/16/86	44.920	13.840	.6627	5.1225	7.0700	1510.0	166.40	2.4835	888.8	141.00	7.1400	1.8255	38.11	2.2160
06/23/86	45.800	13.840	.6598	5.2000	7.0925	1525.0	165.85	2.5300	888.3	143.90	7.2300	1.8280	38.10	2.2230
06/30/86	44.900	13.770	.6494	5.1025	6.9990	1507.0	163.37	2.4745	885.7	140.17	7.1125	1.7850	38.10	2.1940
07/07/86	44.685	13.770	.6536	5.0700	7.0090	1510.0	158.70	2.4575	887.7	138.85	7.0775	1.7880	38.10	2.1900
07/14/86	44.800	13.840	.6725	5.1225	6.9700	1495.0	159.65	2.4565	884.6	139.00	7.1400	1.7720	38.07	2.1700
07/21/86	43.700	13.840	.6689	5.0950	6.8525	1455.0	154.90	2.3900	884.6	137.40	7.0100	1.7130	38.07	2.1200
07/28/86	43.600	13.800	.6754	5.0400	6.8330	1452.0	155.40	2.3815	884.1	137.00	7.0200	1.6955	38.06	2.1110
08/04/86	43.040	13.770	.6807	5.0000	6.7655	1427.0	153.95	2.3485	885.4	134.90	6.9800	1.6710	38.06	2.0823
08/11/86	42.650	13.770	.6715	4.9175	6.6830	1415.0	153.65	2.3210	884.6	133.80	6.9250	1.6550	37.75	2.0595
08/18/86	42.750	13.770	.6707	4.9200	6.7275	1422.0	154.15	2.3305	884.6	133.35	6.9325	1.6705	37.75	2.0670
08/25/86	42.290	13.770	.6751	4.8900	6.6875	1406.0	153.67	2.3015	880.7	133.35	6.8800	1.6420	37.75	2.0408
09/02/86	42.000	13.770	.6711	4.8725	6.6350	1400.0	154.00	2.2915	880.9	133.20	6.8700	1.6350	36.99	2.0270
09/08/86	42.900	13.770	.6729	4.9475	6.7700	1428.0	155.85	2.3380	879.3	134.85	6.9450	1.6895	36.93	2.0720
09/15/86	42.400	13.770	.6756	4.9075	6.7000	1412.0	155.00	2.3140	879.3	134.30	6.9175	1.6525	36.93	2.0480
09/22/86	42.000	13.770	.6897	4.9000	6.6450	1397.0	153.60	2.2950	879.1	133.75	6.8975	1.6375	36.81	2.0310
09/29/86	42.020	13.770	.6969	4.9050	6.6070	1400.0	153.40	2.2885	879.2	133.50	6.9100	1.6360	36.76	2.0185
10/06/86	41.250	13.770	.6958	4.8500	6.5160	1376.0	154.05	2.2500	877.0	131.80	6.8350	1.6190	36.71	1.9890
10/14/86	41.000	13.770	.6957	4.8300	6.4600	1365.0	153.80	2.2295	860.0	131.90	6.8050	1.6130	36.71	1.9700
10/20/86	41.280	13.770	.6946	4.8550	6.5085	1375.0	154.65	2.2458	874.0	132.15	6.8450	1.6272	36.65	1.9865
10/27/86	42.400	14.020	.7107	4.9700	6.6825	1410.0	160.60	2.3120	874.0	136.70	6.9850	1.6935	36.55	2.0465
11/03/86	42.800	14.020	.7065	5.0100	6.7350	1424.0	164.10	2.3290	874.0	138.20	7.0325	1.7165	36.55	2.0635
11/10/86	42.420	14.055	.6949	4.9625	6.6850	1412.0	162.80	2.3100	872.7	136.65	6.9800	1.6985	36.46	2.0450
11/17/86	41.780	14.055	.7002	4.9300	6.5900	1394.0	162.75	2.2730	868.9	135.30	6.9350	1.6735	36.41	2.0130
11/24/86	42.000	13.770	.7067	4.9525	6.6000	1397.0	164.00	2.2810	860.0	135.90	6.9650	1.6885	36.29	2.0170
12/01/86	40.825	14.124	.6927	4.8600	6.4325	1362.5	162.20	2.2220	867.5	133.10	6.8500	1.6365	36.29	1.9640
12/08/86	41.810	14.207	.7041	4.9320	6.5800	1393.0	162.40	2.2732	864.5	135.90	6.9450	1.6800	36.23	2.0095
12/15/86	41.930	14.403	.6939	4.9300	6.6075	1396.0	163.18	2.2795	866.5	133.55	6.9500	1.7010	36.13	2.0178
12/22/86	41.150	14.541	.6928	4.8700	6.4860	1366.0	162.55	2.2360	867.3	133.90	6.8800	1.6570	35.97	1.9738
12/29/86	40.450	14.590	.6809	4.8150	6.4350	1352.0	159.00	2.1955	861.6	131.90	6.8020	1.6230	35.69	1.9410
01/05/87	40.120	14.858	.6784	4.7700	6.3900	1342.5	159.30	2.1775	861.4	131.50	6.7700	1.6280	35.50	1.9320
01/12/87	39.330	15.060	.6720	4.7040	6.2935	1340.0	156.92	2.1370	860.8	130.25	6.6975	1.5830	35.43	1.8925
01/20/87	38.180	15.280	.6575	4.5800	6.1355	1307.0	152.65	2.0715	858.1	129.10	6.5525	1.5400	35.35	1.8365
01/26/87	37.750	15.990	.6557	4.5575	6.0800	1295.0	152.67	2.0539	857.9	128.60	6.5200	1.5310	35.14	1.8225
02/02/87	37.600	16.500	.6572	4.5500	6.0295	1285.0	152.45	2.0390	857.2	128.30	6.4925	1.5260	35.06	1.8100
02/09/87	37.750	17.200	.6556	4.5875	6.0160	1292.0	151.90	2.0505	857.2	128.30	6.5000	1.5245	35.06	1.8055
02/17/87	37.500	18.070	.6536	4.5200	6.0500	1290.0	153.15	2.0490	856.2	127.80	6.4700	1.5350	34.99	1.8172
02/23/87	37.900	19.000	.6489	4.5350	6.1000	1301.0	153.65	2.0690	855.9	128.60	6.4900	1.5500	34.92	1.8330
03/02/87	37.870	19.700	.6394	4.5150	6.1115	1301.5	153.66	2.0670	855.8	128.85	6.4525	1.5455	35.01	1.8773
03/09/87	38.290	19.910	.6299	4.5275	6.1870	1320.0	153.90	2.0960	855.0	129.85	6.4675	1.5685	34.81	1.8590
03/16/87	38.000	20.700	.6299	4.5225	6.1000	1306.0	151.42	2.0755	854.8	128.95	6.4200	1.5335	34.74	1.8330
03/23/87	37.710	20.290	.6180	4.4625	6.0550	1294.0	149.95	2.0540	851.8	127.73	6.3575	1.5210	34.35	1.8180
03/30/87	37.280	21.900	.6221	4.4325	5.9900	1286.0	146.10	2.0355	848.5	126.85	6.3150	1.4988	34.36	1.7967

Exhibit 2

APPLICATION FCOR JOINING
the International ar Insurance
OVERLINING REINNCE SCHEME

NAME OF POOL:

MAXIMUM CAPACITY:

DATE:

INSTRNS

To be completed before January 1.

Maximum Capacity should be the amount istic currency which the pool members have agreed to commit on a foreign risk urvery best conditions. (Any pool having separate commitments by country, refer toninistrator for further instructions.) The amount named is NOT a commitment torticular risk but is a base from which availability of capacity is measured when me currency moves favorably against one or more foreign currencies; a 1% famovement makes 1% of this amount available to other pools who have joined eme for protection against overlining.

Exhibit 3

RISK DECLARATION FORM FOR
the International Nuclear Insurance
OVERLINING REINSURANCE SCHEME

1. CEDING POOL (DNA)
   (Declaring Nation)

2. RISK NAME/LOCATION
   (Common Name) (DCM)

3. RISK'S CURRENCY —
   name of country (DRC)

4. DECLARED AMOUNT in
   risk's currency (DAR)

5. YOUR REFERENCE
   NUMBER (optional)
   (DRF)

DATE OF —

6. ASSUMPTION (optional)

7. EFFECTIVE (DED)

8. EXPIRES   (DXD)

9. THIS SUBMISSION

More than one risk may be submitted on a page. The three letter abbreviations above are for use by the Administrator in the computer program.

If information is telexed, only line number (1,2,......,9) and the requested information need be sent; titles may be omitted.

Short names for 1 and 2 may be used — just so they are clearly identifiable.

Item 3 is usually the name of the country in which the risk is located but occasionally is another country's currency in which the policy is denominated (South Korea, for example).
Effective Date is usually the effective date of the policy but could be some later date if desired. The effective date cannot be earlier than the Monday following (NOT the mailing date, but ·····) the receipt by the Administrator of the Risk Declaration Form or telex.

Exhibit 4

Matrix of Interrelationships of Currencies at January 2, 1986 (t_0)

	Belgium BF	Brazil CRZ	Britain PS	Finland FM	France FF	Italy LRA	Japan YEN	Nthrlnd GLD	S.Korea KWN	Spain PTA	Sweden SKR	Switzr SF	Taiwan TWS	Germany DM	U.S.A. US$	
Belgium	1.0000	0.2034	0.0137	0.1081	0.1493	33.2196	3.9864	0.0551	17.8924	3.0570	0.1517	0.0410	0.8007	0.0486	0.0201	Belgium
Brazil	4.9156	1.0000	0.0676	0.5316	0.7341	163.2955	19.5955	0.2710	87.9526	15.0271	0.7459	0.2014	3.9359	0.2391	0.0987	Brazil
Britain	72.7299	14.7956	1.0000	7.8650	10.8613	2416.0584	289.9270	4.0102	1301.3139	222.3358	11.0365	2.9803	58.2336	3.5380	1.4599	Britain
Finland	9.2473	1.8812	0.1271	1.0000	1.3810	307.1926	36.8631	0.5099	165.4571	28.2691	1.4032	0.3789	7.4042	0.4498	0.1856	Finland
France	6.6962	1.3622	0.0921	0.7241	1.0000	222.4462	26.6935	0.3692	119.8118	20.4704	1.0161	0.2744	5.3616	0.3257	0.1344	France
Italy	0.0301	0.0061	0.0004	0.0033	0.0045	1.0000	0.1200	0.0017	0.5386	0.0920	0.0046	0.0012	0.0241	0.0015	0.0006	Italy
Japan	0.2509	0.0510	0.0034	0.0271	0.0375	8.3333	1.0000	0.0138	4.4884	0.7669	0.0381	0.0103	0.2009	0.0122	0.0050	Japan
Nthrlnd	18.1361	3.6895	0.2494	1.9612	2.7084	602.4754	72.2971	1.0000	324.4995	55.4423	2.7521	0.7432	14.5213	0.8822	0.3640	Nthrlnd
S.Korea	0.0559	0.0114	0.0008	0.0060	0.0083	1.8566	0.2228	0.0031	1.0000	0.1709	0.0085	0.0023	0.0447	0.0027	0.0011	S.Korea
Spain	0.3271	0.0665	0.0045	0.0354	0.0489	10.8667	1.3040	0.0180	5.8529	1.0000	0.0496	0.0134	0.2619	0.0159	0.0066	Spain
Sweden	6.5899	1.3406	0.0906	0.7126	0.9841	218.9153	26.2698	0.3634	117.9101	20.1455	1.0000	0.2700	5.2765	0.3206	0.1323	Sweden
Switzr	24.4036	4.9645	0.3355	2.6390	3.6444	810.6784	97.2814	1.3456	436.6397	74.6020	3.7032	1.0000	19.5396	1.1871	0.4898	Switzr
Taiwan	1.2489	0.2541	0.0172	0.1351	0.1865	41.4891	4.9787	0.0689	22.3465	3.8180	0.1895	0.0512	1.0000	0.0608	0.0251	Taiwan
Germany	20.5570	4.1820	0.2826	2.2230	3.0699	682.8966	81.9476	1.1335	367.8151	62.8430	3.1195	0.8424	16.4597	1.0000	0.4126	Germany
U.S.A.	49.8200	10.1350	0.6850	5.3875	7.4400	1655.0000	198.6000	2.7470	891.4000	152.3000	7.5600	2.0415	39.8900	2.4235	1.0000	U.S.A.

Matrix of Interrelationships of Currencies at December 29, 1986 (t_1)

	Belgium BF	Brazil CRZ	Britain PS	Finland FM	France FF	Italy LRA	Japan YEN	Nthrlnd GLD	S.Korea KWN	Spain PTA	Sweden SKR	Switzr SF	Taiwan TWS	Germany DM	U.S.A. US$	
Belgium	1.0000	0.3607	0.0168	0.1190	0.1591	33.4240	3.9308	0.0543	21.3004	3.2608	0.1682	0.0401	0.8823	0.0480	0.0247	Belgium
Brazil	2.7724	1.0000	0.0467	0.3300	0.4411	92.6662	10.8979	0.1505	59.0541	9.0404	0.4662	0.1112	2.4462	0.1330	0.0685	Brazil
Britain	59.4067	21.4275	1.0000	7.0715	9.4507	1985.6073	233.5145	3.2244	1265.3841	193.7142	9.9897	2.3836	52.4159	2.8506	1.4686	Britain
Finland	8.4008	3.0301	0.1414	1.0000	1.3364	280.7892	33.0218	0.4560	178.9408	27.3936	1.4127	0.3371	7.4123	0.4031	0.2077	Finland
France	6.2859	2.2673	0.1058	0.7483	1.0000	210.1010	24.7086	0.3412	133.8928	20.4973	1.0570	0.2522	5.5462	0.3016	0.1554	France
Italy	0.0299	0.0108	0.0005	0.0036	0.0048	1.0000	0.1176	0.0016	0.6373	0.0976	0.0050	0.0012	0.0264	0.0014	0.0007	Italy
Japan	0.2544	0.0918	0.0043	0.0303	0.0405	8.5031	1.0000	0.0138	5.4189	0.8296	0.0428	0.0102	0.2245	0.0122	0.0063	Japan
Nthrlnd	18.4240	6.6454	0.3101	2.1931	2.9310	615.8051	72.4209	1.0000	392.4391	60.0774	3.0982	0.7392	16.2560	0.8841	0.4555	Nthrlnd
S.Korea	0.0469	0.0169	0.0008	0.0056	0.0075	1.5692	0.1845	0.0025	1.0000	0.1531	0.0079	0.0019	0.0414	0.0023	0.0012	S.Korea
Spain	0.3067	0.1106	0.0052	0.0365	0.0488	10.2502	1.2055	0.0166	6.5322	1.0000	0.0516	0.0123	0.2706	0.0147	0.0076	Spain
Sweden	5.9468	2.1450	0.1001	0.7079	0.9460	198.7651	23.3755	0.3228	126.6686	19.3914	1.0000	0.2386	5.2470	0.2854	0.1470	Sweden
Switzr	24.9230	8.9895	0.4195	2.9667	3.9649	833.0253	97.9667	1.3527	530.8688	81.2693	4.1910	1.0000	21.9901	1.1959	0.6161	Switzr
Taiwan	1.1334	0.4088	0.0191	0.1349	0.1803	37.8818	4.4550	0.0615	24.1412	3.6957	0.1906	0.0455	1.0000	0.0544	0.0280	Taiwan
Germany	20.8398	7.5167	0.3508	2.4807	3.3153	696.5482	81.9165	1.1311	443.8949	67.9547	3.5044	0.8362	18.3874	1.0000	0.5152	Germany
U.S.A.	40.45	14.59	0.6809	4.815	6.435	1352	159	2.1955	861.6	131.9	6.802	1.623	35.69	1.941	1.0000	U.S.A.

Reading across the top row of the upper table, 1 BF buys 1 BF, 1 BF buys .2034 CRZ, etc, 1 BF buys .0201 US$.

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Exhibit 5

Difference of Matrices from Exhibit 4: $t_1 - t_0$

	Belgium BF	Brazil CRZ	Britain PS	Finland FM	France FF	Italy LRA	Japan YEN	Nthrlnd GLD	S.Korea KWN	Spain PTA	Sweden SKR	Switzr SF	Taiwan TW$	Germany DM	U.S.A. US$	
Belgium	0.0000	+0.1573	+0.0031	+0.0109	+0.0097	+0.2044	-0.0556	-0.0009	+3.4080	+0.2038	+0.0164	-0.0009	+0.0816	-0.0007	+0.0046	Belgium
Brazil	-2.1432	0.0000	-0.0209	-0.2016	-0.2930	-70.6293	-8.6976	-0.1206	-28.8985	-5.9867	-0.2797	-0.0902	-1.4897	-0.1061	-0.0301	Brazil
Britain	-13.3233	+6.6319	0.0000	-0.7934	-1.4106	-430.4511	-56.4125	-0.7858	-35.9298	-28.6216	-1.0468	-0.5967	-5.8177	-0.6873	+0.0088	Britain
Finland	-0.8465	+1.1489	+0.0143	0.0000	-0.0445	-26.4034	-3.8413	-0.0539	+13.4837	-0.8756	+0.0094	-0.0419	+0.0081	-0.0467	+0.0221	Finland
France	-0.4103	+0.9051	+0.0137	+0.0241	0.0000	-12.3452	-1.9849	-0.0280	+14.0809	+0.0269	+0.0409	-0.0222	+0.1847	-0.0241	+0.0210	France
Italy	-0.0002	+0.0047	+0.0001	+0.0003	+0.0003	0.0000	-0.0024	0.0000	+0.0987	+0.0055	+0.0005	0.0000	+0.0023	0.0000	+0.0001	Italy
Japan	+0.0035	+0.0407	+0.0008	+0.0032	+0.0030	+0.1698	0.0000	0.0000	+0.9304	+0.0627	+0.0047	-0.0001	+0.0236	0.0000	+0.0013	Japan
Nthrlnd	+0.2879	+2.9559	+0.0608	+0.2319	+0.2226	+13.3296	+0.1238	0.0000	+67.9396	+4.6351	+0.3461	-0.0039	+1.7347	+0.0018	+0.0914	Nthrlnd
S.Korea	-0.0089	+0.0056	0.0000	-0.0005	-0.0009	-0.2875	-0.0383	-0.0005	0.0000	-0.0178	-0.0006	-0.0004	-0.0033	-0.0005	0.0000	S.Korea
Spain	-0.0204	+0.0441	+0.0007	+0.0011	-0.0001	-0.6165	-0.0985	-0.0014	+0.6793	0.0000	+0.0019	-0.0011	+0.0087	-0.0012	+0.0010	Spain
Sweden	-0.6432	+0.8043	+0.0095	-0.0048	-0.0381	-20.1503	-2.8944	-0.0406	+8.7586	-0.7541	0.0000	-0.0314	-0.0295	-0.0352	+0.0147	Sweden
Switzr	+0.5194	+4.0250	+0.0840	+0.3277	+0.3205	+22.3468	+0.6853	+0.0072	+94.2290	+6.6672	+0.4878	0.0000	+2.4506	+0.0088	+0.1263	Switzr
Taiwan	-0.1156	+0.1547	+0.0019	-0.0001	-0.0062	-3.6073	-0.5237	-0.0073	+1.7948	-0.1223	+0.0011	-0.0057	0.0000	-0.0064	+0.0030	Taiwan
Germany	+0.2827	+3.3348	+0.0681	+0.2577	+0.2454	+13.6515	-0.0311	-0.0024	+76.0798	+5.1117	+0.3849	-0.0062	+1.9278	0.0000	+0.1026	Germany
U.S.A.	-9.3700	+4.4550	-0.0041	-0.5725	-1.0050	-303.0000	-39.6000	-0.5515	-29.8000	-20.4000	-0.7580	-0.4185	-4.2000	-0.4825	0.0000	U.S.A.

The table shows that at time t_1, 1 BF buys .1573 more CRZs than it did at time t_0.

Selected Pools Used in the Test Run

	Britain PS	France FF	Japan YEN	Sweden SKR	Switzr SF	Germany DM	U.S.A. US$	
Britain	0.0000	-1.4106	-56.4125	-1.0468	-0.5967	-0.6873	+0.0088	Britain
France	+0.0137	0.0000	-1.9849	+0.0409	-0.0222	-0.0241	+0.0210	France
Japan	+0.0008	+0.0030	0.0000	+0.0047	-0.0001	0.0000	+0.0013	Japan
Sweden	+0.0095	-0.0381	-2.8944	0.0000	-0.0314	-0.0352	+0.0147	Sweden
Switzr	+0.0840	+0.3205	+0.6853	+0.4878	0.0000	+0.0088	+0.1263	Switzr
Germany	+0.0681	+0.2454	-0.0311	+0.3849	-0.0062	0.0000	+0.1026	Germany
U.S.A.	-0.0041	-1.0050	-39.6000	-0.7580	-0.4185	-0.4825	0.0000	U.S.A.

Exhibit 6

Table of Needs and Availabilities as of December 29, 1986
Maximum Capacity times Matrix (t_0 - t_1)
for Selected Pools Used in the Test Run
(all amounts in thousands)

	MAXIMUM CAPACITY	Britain PS	France FF	Japan YEN	Sweden SKR	Switzr SF	Germny DM	U.S.A. US$
Britain	20,000	0	-28,212	-1,128,251	-20,936	-11,934	-13,746	176
France	240,000	3,298	0	-476,382	9,817	-5,323	-5,786	5,038
Japan	12,000,000	9,999	36,114	0	56,561	-863	56	15,049
Sweden	325,000	3,086	-12,377	-940,668	0	-10,216	-11,444	4,791
Switzr	80,000	6,720	25,640	54,825	39,028	0	705	10,105
Germny	250,000	17,037	61,340	-7,765	96,231	-1,552	0	25,643
U.S.A.	100,000	-410	-100,500	-3,960,000	-75,800	-41,850	-48,250	0

The following countries provided no capacity in the test run and so are omitted from the matrix above: Belgium, Brazil, Finland, Italy, Netherlands, S. Korea, Spain, and Taiwan.

Positive numbers above show an availability of capacity from the country at the left in the currency of the country shown at the head of the column. Negative numbers show a need for capacity by the country at the left of the column if, but only if, that country has declared a risk to The Scheme in the currency of the country shown at the head of the column.

For example, France can provide 3,298 thousand PS of capacity if needed (note that U.S.A. is the only one needing PS at this moment). Conversely, if Britain has declared a French risk to The Scheme, it needs FF of capacity if available (note that Japan, Switzerland and Germany each have FF capacity available). The amount of capacity sought by Britain is a function of the amount of FF declared on that particular risk.

Exhibit 7

Risks Declared to The Scheme

Name of Risk	Risk's Curncy	Ceding Pool	Reference Number	Effective Date	Expiration Date	Declard Amt in Curncy of: the Cedant	Curncy of: the Risk*
CHRLEROI	BF	BRITAIN	UK394	01-01-86	01-01-87	21999197	1600000
CHRLEROI	BF	JAPAN	JA939	01-01-86	01-01-87	14350863107	3600000
CHRLEROI	BF	SWEDEN	SWDN551	01-01-86	01-01-87	576635889	3800000
CHRLEROI	BF	SWITZRLN	SWITZ012	01-01-86	01-01-87	139323564	3400000
CHRLEROI	BF	GERMANY	GRMNY67	01-01-86	01-01-87	355109393	7300000
CHRLEROI	BF	U.S.A.	USA423	01-01-86	01-01-87	90325170	4500000
SAPPORO	YEN	BRITAIN	BRIT393	04-17-86	04-17-87	23823914	6300000
SAPPORO	YEN	SWEDEN	SWDN130	04-17-86	04-17-87	492131055	12000000
SAPPORO	YEN	SWITZRLN	SWITZ29	04-17-86	04-17-87	118902268	11000000
SAPPORO	YEN	U.S.A.	USA183	04-17-86	04-17-87	89610753	16000000
INCHON2	US$	BRITAIN	BRIT838	11-17-86	11-17-87	15404400	22000
VALENCIA	PTA	BRITAIN	BRIT737	04-15-86	04-15-87	22676353	4900000
VALENCIA	PTA	JAPAN	JAPN2840	04-15-86	04-15-87	20804318026	17000000
VALENCIA	PTA	SWITZRLN	SWITZ83	04-15-86	04-15-87	185195339	14000000
VALENCIA	PTA	GERMANY	GRMNY28	04-15-86	04-15-87	561333104	35500000
VALENCIA	PTA	U.S.A.	USA8383	04-15-86	04-15-87	89102124	13000000
LAUSANNE	SF	BRITAIN	BRIT711	01-01-86	01-01-87	22145481	66000
LAUSANNE	SF	JAPAN	JAPN3812	01-01-86	01-01-87	11187362233	115000
LAUSANNE	SF	GERMANY	GRMNY18	01-01-86	01-01-87	344264021	290000
LAUSANNE	SF	U.S.A.	USA8820	01-01-86	01-01-87	93068821	190000
DORTMUND	DM	JAPAN	JAPN821	01-01-86	01-01-87	11472663503	140000
DORTMUND	DM	U.S.A.	USA771	01-01-86	01-01-87	73447493	178000
GOTEBORG	SKR	BRITAIN	BRIT8718	01-01-86	01-01-87	18121693	200000
GOTEBORG	SKR	JAPAN	JAPN3387	01-01-86	01-01-87	11821428571	450000
GOTEBORG	SKR	U.S.A.	USA283	01-01-86	01-01-87	92592592	700000

* in thousands

Exhibit 8

Weekly Run Sent to Each Participating Pool
for the week of 03-31-86

Name of Risk	Risk's Curncy	Ceding Pool	Reference Number	Effective Date	Expiration Date	Declard Amt in Curncy of: the Cedant	the Risk*

A. Risks eliminated because they are not covered during this week:

SAPPORO	YEN	BRITAIN	BRIT393	04-17-86	04-17-87	23823914	6300000
SAPPORO	YEN	SWEDEN	SWDN130	04-17-86	04-17-87	492131055	12000000
SAPPORO	YEN	SWITZRLN	SWITZ29	04-17-86	04-17-87	118902268	11000000
SAPPORO	YEN	U.S.A.	USA183	04-17-86	04-17-87	89610753	16000000
INCHON2	US$	BRITAIN	BRIT838	11-17-86	11-17-87	15404400	22000
VALENCIA	PTA	BRITAIN	BRIT737	04-15-86	04-15-87	22676353	4900000
VALENCIA	PTA	JAPAN	JAPN2840	04-15-86	04-15-87	20804318026	17000000
VALENCIA	PTA	SWITZRLN	SWITZ83	04-15-86	04-15-87	185195339	14000000
VALENCIA	PTA	GERMANY	GRMNY28	04-15-86	04-15-87	561333104	35500000
VALENCIA	PTA	U.S.A.	USA8383	04-15-86	04-15-87	89102124	13000000

B. Risks that do not need protection because of favorable currency movement:

CHRLEROI	BF	JAPAN	JA939	01-01-86	01-01-87	14350863107	3600000
CHRLEROI	BF	SWITZRLN	SWITZ012	01-01-86	01-01-87	139323564	3400000
LAUSANNE	SF	JAPAN	JAPN3812	01-01-86	01-01-87	11187362233	115000
DORTMUND	DM	JAPAN	JAPN821	01-01-86	01-01-87	11472663503	140000
GOTEBORG	SKR	JAPAN	JAPN3387	01-01-86	01-01-87	11821428571	450000

C. Risks that do need capacity because of unfavorable currency movement:

CHRLEROI	BF	BRITAIN	UK394	01-01-86	01-01-87	21999197	1600000
CHRLEROI	BF	SWEDEN	SWDN551	01-01-86	01-01-87	576635889	3800000
CHRLEROI	BF	GERMANY	GRMNY67	01-01-86	01-01-87	355109393	7300000
CHRLEROI	BF	U.S.A.	USA423	01-01-86	01-01-87	90325170	4500000
LAUSANNE	SF	BRITAIN	BRIT711	01-01-86	01-01-87	22145481	66000
LAUSANNE	SF	GERMANY	GRMNY18	01-01-86	01-01-87	344264021	290000
LAUSANNE	SF	U.S.A.	USA8820	01-01-86	01-01-87	93068821	190000
DORTMUND	DM	U.S.A.	USA771	01-01-86	01-01-87	73447493	178000
GOTEBORG	SKR	BRITAIN	BRIT8718	01-01-86	01-01-87	18121693	200000
GOTEBORG	SKR	U.S.A.	USA283	01-01-86	01-01-87	92592592	700000

* in thousands

Weekly Run Sent to Each Participating Pool
for the week of 03-31-86

D. Complete list of buys made for the week:

↓ buys	↓ from	↓ to cover	↓	in week	↓ in the amount of	↓ units
BRITAIN	SKR	GERMANY	GOTEBORG	03-31-86		167763
BRITAIN	SKR	SWITZRLN	GOTEBORG	03-31-86		386666
BRITAIN	BF	SWITZRLN	CHRLEROI	03-31-86		3360262
BRITAIN	BF	JAPAN	CHRLEROI	03-31-86		31027725
BRITAIN	SKR	JAPAN	GOTEBORG	03-31-86		2141937
BRITAIN	SF	JAPAN	LAUSANNE	03-31-86		1343105
SWEDEN	BF	JAPAN	CHRLEROI	03-31-86		25673950
SWEDEN	BF	SWITZRLN	CHRLEROI	03-31-86		2780455
GERMANY	BF	JAPAN	CHRLEROI	03-31-86		27573802
GERMANY	BF	SWITZRLN	CHRLEROI	03-31-86		2986206
GERMANY	SF	JAPAN	LAUSANNE	03-31-86		2551623
U.S.A.	BF	JAPAN	CHRLEROI	03-31-86		145116650
U.S.A.	BF	SWITZRLN	CHRLEROI	03-31-86		15715943
U.S.A.	DM	JAPAN	DORTMUND	03-31-86		4757652
U.S.A.	DM	SWITZRLN	DORTMUND	03-31-86		715318
U.S.A.	SF	JAPAN	LAUSANNE	03-31-86		5673450
U.S.A.	SKR	JAPAN	GOTEBORG	03-31-86		15123958
U.S.A.	SKR	SWITZRLN	GOTEBORG	03-31-86		2730204
U.S.A.	SKR	GERMANY	GOTEBORG	03-31-86		1184554

This billing covers transactions starting with the week of 01-06-86 through the week of 03-31-86. Converting premiums payable or receivable to US$ is at 08-17-87 exchange rates, the latest available to us today.

A. 1 US$/risk/week charges plus the 100 US$ fee for newly declared risks . . . 113.00

B. Coverage you bought during the period:

You bought ↓ of ↓	from	covering	on	costing ↓ US$
53,045 BF	BRITAIN	CHRLEROI	01-13	0.11
13,762,433 BF	JAPAN	CHRLEROI	02-03	29.70
25,378,276 BF	JAPAN	CHRLEROI	02-10	54.77
41,679,312 BF	JAPAN	CHRLEROI	02-17	89.96
19,355,360 BF	JAPAN	CHRLEROI	02-24	41.77
7,802,294 BF	JAPAN	CHRLEROI	03-03	16.84
20,673,627 BF	JAPAN	CHRLEROI	03-10	44.62
26,992,615 BF	JAPAN	CHRLEROI	03-17	58.26
18,586,630 BF	JAPAN	CHRLEROI	03-24	40.12
25,673,950 BF	JAPAN	CHRLEROI	03-31	55.41
34,931 BF	SWITZRLN	CHRLEROI	02-10	0.08
14,056,454 BF	SWITZRLN	CHRLEROI	02-17	30.34
6,816,233 BF	SWITZRLN	CHRLEROI	02-24	14.71
2,780,455 BF	SWITZRLN	CHRLEROI	03-31	6.00
4,124,894 BF	GERMANY	CHRLEROI	02-17	8.90
2,603,944 BF	GERMANY	CHRLEROI	02-24	5.62
1,068,735 BF	GERMANY	CHRLEROI	03-03	2.31
1,201,292 BF	U.S.A.	CHRLEROI	01-13	2.59
807,671 BF	U.S.A.	CHRLEROI	01-20	1.74

For this billing period you bought coverage for a total cost of 503.85

C. Coverage you sold during the period:

You sold ↓ of ↓	to	covering	on	for a ↓ credit in US$
578,040 BF	BRITAIN	CHRLEROI	01-06	1.13
1,081,280 BF	JAPAN	CHRLEROI	01-06	0.12
787,567 BF	SWITZRLN	CHRLEROI	01-06	1.54
1,073,930 BF	GERMANY	CHRLEROI	01-06	2.10
268,984 DM	JAPAN	DORTMUND	01-06	10.93
71,062 DM	JAPAN	DORTMUND	01-13	2.89
131,223 DM	JAPAN	DORTMUND	01-20	5.33
92,089 SF	BRITAIN	LAUSANNE	01-06	4.50
171,663 SF	BRITAIN	LAUSANNE	01-20	8.39
85,055 SF	JAPAN	LAUSANNE	01-06	4.16

For this billing period you sold coverage for a total credit of 41.09

D. Grand Total; please REMIT to us US$ 575.76

Exhibit 10

ACCOUNTING SUMMARY
from the viewpoint of the Administrator
for the Billing Period 01-06-86 to 03-31-86

Pool	Amounts to be Remitted due to:		Amounts to be Paid due to:	NET AMOUNT
	FEES	BUYS	SELLS	
BRITAIN	39.00	2,810.98	8.67	2,841.31
FRANCE	0.00	0.00	0.00	0.00
JAPAN	52.00	273.30	9,652.59	-9,327.29
SWEDEN	113.00	503.85	41.09	575.76
SWITZRLND	13.00	133.48	1,280.59	-1,134.11
GERMANY	26.00	579.55	1,913.42	-1,307.87
U.S.A.	65.00	10,663.95	380.19	10,348.76
T O T A L	308.00	14,965.11	13,276.55	1,996.56

From the Administrator's standpoint, the Total Net Amount is its compensation for the quarter for running the system. Fees are 100 US$ per risk declared to The Scheme plus 1 US$/week /risk that is in the system. The differential between the Total Buys and the Total Sells arises because the buys are made at a rate of 84 units and the sells are made at a rate of 76 units (per week per million of local currency). The net difference is compensation to the Administrator.