

## REINSURANCE DIALOGUE

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[See table of contents](#)

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## REINSURANCE DIALOGUE

between Christopher J. Robey  
and David E. Wilmot

June 4, 1997

*Dear Mr. Robey,*

### Definition of Property Occurrence Revisited

As you correctly point out in your letter of February 16, 1997, reinstatement premiums are considered payable even if there is little or no time/exposure remaining in the contract year. Were an occurrence of 72 hours or 168 hours to terminate at midnight December 31, or a few hours or days into the new year, reinsurers would still expect to recover any reinstatement premiums not subject to pro-rata time restrictions.

The reason is one of pricing. Quoting reinsurers will (or should) factor the additional reinstatement premiums, payable in the event of a loss, into the rates charged for catastrophe protection. These additional recoveries, calculated with reasonable accuracy on the same estimated loss frequencies used to establish the overall treaty pay-back, become a measurable part of the competitive catastrophe quotation. This rating approach would fail if the reinsurer could be denied its expected reinstatement.

Your argument that it is not possible to reinstate an expired treaty is merely one of semantics. Suppose a 72-hour occurrence began at approximately midnight December 28. Would you suggest that payment of a reinstatement hangs on whether the first loss occurred three minutes before or three minutes after midnight? (Of

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course, the insurer could simply disregard the first few losses in order to push the 72-hour period beyond the end of the year to avoid paying a reinstatement premium.) The fair pricing of excess treaties is too important to be left to chance. When buyers of catastrophe reinsurance are charged a fair and predictable price, they are then free to budget for or even to buy protection against the payment of reinstatement premiums.)

The role of the reinstatement premium in the pricing of catastrophe exposures is demonstrated even more clearly in the terms quoted for many All Class excess of loss treaties. In addition to the excess treaty rate, reinsurers will often quote a separate, specific rate to be applied to property and auto PD premiums in the event of a 100%-time reinstatement. (A separate rate is set because the original treaty rate may be inappropriate when applied only to property and auto PD premiums.)

Reinsurers may one day amend the occurrence clause to better address year-end anomalies, but for now, the contract intention is quite clear.

## **Non-concurrency**

In order to further explore the potential problems arising from a year-end occurrence, you have introduced the further problems of discrepant hours clauses as well as incongruities in the classes of business covered. Again, you assume a prolonged loss such as the British Columbia snow-load losses toward the end of 1996.

In your example of a 72-hour marine catastrophe treaty which underlies a 168-hour All-Class catastrophe treaty, you expect the former to inure to the benefit of the latter. That is, the marine treaty responds to a 72-hour period for marine losses, and the overlying catastrophe treaty then responds to a 168-hour ultimate net loss that excludes those marine treaty recoveries. However, the timing and circumstances of the event could cause the marine treaty to respond (or not respond) in unpredictable ways. For example, the marine treaty's 72 hours may fall only partially within the catastrophe treaty's 168 hours. One must also ask whether the insurer can invoke the marine treaty to pay a second 72-hour loss.

Buyers and sellers of reinsurance tend to think of the various layers of a catastrophe program as working in concert. Seldom will the insurer benefit by establishing different start-of-occurrence dates for various layers. However, you are correct in noting that the contract (or rather, each of the contracts on a layered program) operates independently. Theoretically, so long as each treaty layer

attaches above the ultimate net losses *of its own designated time period*, the terms and the intention of the contract will have been met.

However, you conclude that unusual or unique situations can be resolved when all parties are aware of the treatys intended operation. I doubt that such clarity of intent exists for every combination and permutation of underlying, overriding, inuring or aggregating treaty.

Furthermore, there are some practical problems that must be addressed.

Any consideration of non-concurrent dates assumes our ability to trace and date each individual loss falling within each treatys ultimate net. That is, the insurer must be able to determine that Mrs. Jones car-port collapsed at 7:52 p.m. on December 30 and that the water damage to Honest Als Discount Appliance Store occurred before 4:15 a.m. on January 4. Using your own example of an underlying marine treaty, if the optimum 72 hours for that treaty does not fall entirely within the overlying treatys 168 hours, issues of timing and of cedant net retention(s) may be extremely difficult, if not impossible, to resolve.

Even under relatively normal conditions following a brief event, the correct identification and timing of losses can be problematic. To control and detail the loss data for different but overlapping time periods will likely prove beyond the computer capabilities or the manpower of most insurers. Failing accurate control of loss data, any attempt to approximate the accumulation of may be regarded as too open to abuse. (If insurers and reinsurers cannot disentangle occurrences 1,300 kilometers apart, then it is unlikely that they will sort out localized hail, wind, sewer back-up, shocks and after-shocks with ease or equanimity.)

Another problem arises from the intermingling of treaty layers which were designed to respond to different classes of business. Examples of such intermingling include catastrophe programs in which the top one or two layers provide earthquake-only protection, and pure catastrophe layers that operate above All-Class layers. The All-Class layers could include liability claims within the ultimate net loss in ways that confound the overlying hours clause. (The overlying catastrophe treaty will normally contain a clause recognizing the broader underlying All-Class coverage, but the Canadian market has little experience with combined property casualty events.)

If hours clause wordings differ within a program, then yet another layer of confusion and possible conflict is introduced. Careless

interweaving of words such as event and occurrence have already taken reinsurance parties to court. Add the dimensions of class, time and year-end snow storms, and I will assure you that no pre-understanding or agreement of intent exists between the parties.

You and I will soon find ourselves in trouble if we generalize about issues as complex as the non-concurrent hours clauses of treaties with different-but-overlapping classes of business tested in unusual circumstances. It behooves us to proceed with greater caution and more detailed discussion than has hitherto been the case.

## **Annual Aggregate Deductibles**

I now turn to another treaty condition with pricing implications. The Annual Aggregate Deductible (AAD) enjoys wide use in Canada, although it is used far less frequently in the United States and Europe. This treaty condition may be described as a deductible applied to the first losses otherwise payable by the excess of loss reinsurer. To give a simple but typical example: an All-Class treaty of \$750,000 excess of \$250,000 with a \$500,000 AAD will pay excess losses to the cedant only after the first \$500,000 of loss payments *otherwise attributable to the excess reinsurer* have been retained net by the insurer. If the first incurred and paid loss were \$1,000,000, the reinsurer would contribute only \$250,000, being \$750,000 excess of \$250,000 less \$500,000 AAD. Subsequent losses to the excess layer in the same contract year would be paid by the reinsurer in full.

In practice, the deductible does not attach to individual claims so much as to the individual claim payments (full or partial) that first exceed the treaty retention. For this reason, the introduction of an AAD makes heavy demands on internal accounting and tracking systems. As well, AADs have tested the programming skills of insurance and reinsurance IT departments, while actuaries have wrestled with the impact of AADs on IBNR reserves and on loss reserving models.

The idea behind the AAD is not complicated, but confusion can be created among insurers by different but similarly named primary clauses, and among reinsurers by misconceptions about the value of this treaty condition. In as much as insurers are paying increased attention to the true cost of reinsurance protection, it is worth exploring the ongoing use of this excess of loss condition.

At its simplest, the AAD eliminates, or at least reduces, some of the more predictable dollar trading between the insurer and the reinsurer. It reduces the premium payable to reinsurers simply by

reducing the number of excess claim dollars payable under the excess of loss agreement. This reduced cost of reinsurance will equate roughly to the potential additional claims dollars held net by the insurer.

It has been suggested that the insurers true savings come from the reinsurance *loadings* no longer applied to excess claims held net. However, this is not entirely correct either. There may be some savings to be derived from the AAD, but it is important for both the insurer and the reinsurer to understand where those savings may be found - and where they may not be found.

Savings are not likely to come from reduced risk loading. Those reinsurers who understand the principles of risk transfer will recognize that, to a large extent, the AAD is merely an accounting transaction – one which does not materially affect treaty exposure. Although an AAD may alter the reinsurers prospects for making or losing money on the contract, *it does not reduce the degree of risk assumed by the excess agreement*. Astute reinsurers will not discount the dollars required for risk transfer, adverse development, shock, or exposure. (When AADs were first introduced to Canada, reinsurers were often given excess loss cost summaries *net* of the AAD. This was done in the expectation that quoting markets would fail to analyze their exposures and simply apply their standard loadings to these net losses. This is indeed what happened, but I am reluctant to suggest that I have discovered the reason for the AADs unique toehold in Canada.)

Just as the loading for risk cannot be reduced, neither can reinsurers afford to reduce their loading for administrative costs. True, reinsurers may issue fewer claim cheques as a result of the AAD, but this saving is more than offset by increased administrative costs for claims control, reserving, accounting, data processing, reporting and related activities.

Far from *reducing* the loadings a reinsurer must apply to anticipated losses, the AAD requires the reinsurer to consider *new* loadings to counter the reduced excess premiums. Assuming competitive pricing before the introduction of the AAD, reinsurers must now *add* a loading for loss of investment income on the dollars no longer ceded. Yes, the insurer will now invest the those retained dollars and thus offset this new loading. But if the reinsurer anticipated a better return than the insurer ultimately achieves, the insurer will have given up more than it gained. (On the other hand, if the insurer believes its investment returns will exceed market norms, then we may have found one small point in favor of the AAD. The insurers return on the withheld loss dollars may exceed the reinsurers

loading for lost investment opportunity. The difference, for a \$500,000 AAD on a property working excess treaty, could earn enough to pay for a very nice business lunch.)

The reinsurer must also consider whether or not treaty losses will *always* exceed the AAD. If the nature of the excess of loss exposure is such that the treaty could occasionally experience a clean year, or a year in which losses do not entirely consume the AAD, then the reinsurer has lost the opportunity to factor these good years into the rate. Therefore, the reinsurer will load the rate to compensate for this lost opportunity to make good years pay for bad. The insurer may think that the AAD has created the potential for a windfall savings if there are no losses, but this is incorrect. Rather, the insurer has simply reassumed the risk that these loss-free years never materialize. There is no free lunch.

So where are the savings? There are none if the reinsurer has correctly assessed its risk and investment factors when it prices (discounts) the AAD. In fact, the AAD may do nothing more than introduce *additional* expenses administratively for the insurer, the reinsurer and, if there is one, the broker.

The participation of a broker, however, does introduce a new consideration. Because the reinsurers loading must include a factor for brokerage (which is normally expressed as a percentage of reinsurance premium) the AAD will reduce both the treaty premium and the compensation received by the broker. This reduced brokerage may be the only true savings enjoyed by the insurer. But isn't it ironic (and perhaps counter-productive to the insurer) that the one small advantage to be gained from the AAD must be realized at the expense of the broker working in the insurers best interest?

With the exception of reduced brokerage, the imagined savings from the AAD is illusory. In a sophisticated market, this treaty condition is merely a complex accounting function rendered neutral by compensating reinsurance pricing. One must ask why AADs are not widely used in the United States, where excess treaties command premiums many times larger than those of Canada. Could it be because the Annual Aggregate Deductible represents, at best, nothing more than chump change.

Yours sincerely,

*David E. Wilmot*