

AGREED BASIS OF BUSINESS INTERRUPTION MEASUREMENT



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After 45 years of handling technically-based mining, power, construction, engineering and oil, gas and petrochemical claims, I can safely say that refinery losses with time element exposure are the most challenging property claims. These losses require knowledge of process engineering, refinery configuration, the licensed technologies employed by the insured and the economics of the markets served. Furthermore, business interruption issues are not exclusive to larger losses, but merely take on a greater emphasis as the associated quantum grows. Typically, when a claim is concluded, parties ask how the process could be streamlined and whether the extent of data requested by insurers' various consultants is truly necessary.

S&P GLOBAL COMMODITY INSIGHTS-DERIVED MODEL

Against this backdrop, I set out to find a simplified approach to refinery losses and address some of the pertinent underwriting concerns. My aim was to design an Agreed Basis of Business Interruption Measurement, as opposed to an agreed value of quantification, which is fraught with challenges when introduced to the refining sector.

At the heart of the solution is an impartial third party, the consulting team at S&P Global Commodity Insights. Comprising consultancies at IHS Markit, Purvin & Gertz, PFC, CERA and CMAI, Commodity Insights also has access to Platts price data. Its adaptable refinery yardstick linear programmes can model any refinery worldwide, and the Commodity Insights-derived model, combined with the insured's NDA-protected, refinery-specific information, becomes the basis for quantifying both premium and indemnity.

ACCURACY OF EARNINGS DATA

First, the solution addresses the provision of accurate earnings data, upon which underwriters calculate the appropriate premium. Currently this is provided by insureds as part of the underwriting information. They make best efforts to look forward through the insurance period and (tentatively) for a further 24 months or longer. Unsurprisingly, these assessments are often way off-mark, which is why (in part) volatility clauses were introduced to limit the indemnity available by capping excursions above declared amounts by a percentage applied on a monthly and/or annual basis.

REFINERY-TAILORED LPs

To overcome this challenge, Commodity Insights provides the insured with the refinery modelling results, tailored to the subject refinery, so they can validate the relevant capacities and outputs. Each customised LP is based on Commodity Insights data, analysis and forecasts. The prices of crude oil, intermediates and finished products are adjusted for factors that might affect margin, such as logistics costs, local market pricing and the insured's refinery operations/performance. Using public data and the insured's, Commodity Insights calculates feedstock values delivered to the refinery and refinery gate product prices, based on the Cash Cost of Light Products (CCLP), derived from the following formula:

$$\text{CCLP} = \frac{\text{Feedstock costs} + \text{Fixed/Variable* Operating costs} + \text{RVOs**} - \text{By-Product Credits (\$/day)}}{\text{Production of light products^ in BPD}}$$

* Variable operating costs are from the LP model. Fixed operating costs are estimated from the refinery configuration
^ Light products are gasoline, jet and diesel from the LP model
~ By-products relate to revenue from other streams excluding the above, e.g. residuum, aromatics, LPG etc.
** RVO is Renewable Volume Obligations, or cost of RINS etc.



Many facilities are not solely fuels refineries, so where the insured produces specialty products (e.g. petrochemical feedstocks, biofuels, lubricants and asphalt), these can be reflected in the customised model.

Next, the LP projects the gross earnings for the period of insurance, which is used to calculate the premium. Commodity Insights reviews margin history and provides outlooks 12 months in advance (policy period), or longer to reflect the actual indemnity periods. The model forecasts are then updated with actual input and output price data from a quarterly analysis provided by Commodity Insights and relevant data from the insured (e.g. material changes in crude slate, planned turnarounds, de-bottlenecking etc). At the end of the period, the cumulative quarterly reconciliations indicate the actual earnings of the refinery and provide a basis to undertake premium adjustment.


LOSS SCENARIOS

In the event of a loss, Commodity Insights provides the anticipated revenue and gross margin projections from the same model for the facility during the period of interruption. Use of the latest quarterly update as the start-point of the underlying calculation enables early and accurate claim assessments and assists with reserving and cash flow projections for payments on account. Commonly other downstream process units are affected, but these can also be reflected in the model, as well as post-loss mitigation (e.g. altered crude slate, by-passes and workarounds) so long as process unit capacities are known.

CALCULATING INDEMNITY

In simple terms, the indemnity is the difference between the LP output of earnings (had no loss occurred) and that achieved during the period of indemnity, less savings. Realisation of mitigation and identification of non-recurring variable costs are still part of the adjustment process, as appropriate. Insurers also retain mechanisms to ensure appropriate 'Increased Cost of Working / Expense to Reduce Loss' and expedite expenditure.

Once all payments on account have been made at the conclusion of the interruption, a "truing up" exercise is performed by Integra, Commodity Insights and the insured and any balances due are paid to complete the indemnification.



MANY FACILITIES ARE NOT SOLELY FUELS REFINERIES, SO WHERE THE INSURED PRODUCES SPECIALTY PRODUCTS (E.G. PETROCHEMICAL FEEDSTOCKS, BIOFUELS, LUBRICANTS AND ASPHALT), THESE CAN BE REFLECTED IN THE CUSTOMISED MODEL.

SOLUTION BENEFITS

- Margin volatility clause may not be as relevant
- Premium assessment is on the same basis as claim evaluation
- In the event of a claim, improved speed and accuracy of reserving, and frequency of interim payments during the period of interruption
- Minimised subjectivity in the claim assessment reduces scope for disagreement and litigation
- Reduced personnel time input at the placing stage and in the event of a claim
- Speedier and more accurate claim resolutions
- Insurer and insured maintain a closer relationship through ABBIM which could lead to mutual commercial advantage

ABBIM: NEXT STEPS

This concept has already been brainstormed with major refiners prior to sharing with insurers to determine whether they would be prepared to underwrite it. Numerous questions were raised during this process. Who pays for it? Does it increase the level of indemnity? Can it deal with interdependencies and price spikes? Will it reduce the overall energy premium pool? Today, all these points have been satisfactorily resolved and the concept is being trialled. We foresee its introduction as an endorsement rather than an attempt to alter the fundamentals of the provision of indemnity.

ABBIM is likely to appeal to sophisticated insurance buyers and those familiar with the challenges of presenting business interruption claims. Clearly, there is interest from both sectors as we continue work to bring this to life as a viable alternative method of Business Interruption measurement.