THAILAND FLOOD SUBROGATION WHITE PAPER

Thailand's two principal river systems are the Chao Phraya and the Mekong. There are a number of other smaller rivers which run through Thailand and drain into the Gulf of Thailand and the Andaman Sea. The Mekong drains into the South China Sea. Beginning in July, Thailand's rivers have been flooding. The floods have caused 506 deaths and an estimated $5.1 billion in damage. According to government reports the flooding has affected almost 15 million acres of land in 58 provinces.

The flooding started in July with the monsoon season and was complicated by Tropical Storm Nock-ten. The rainfall in Thailand in March was estimated to be 344 percent above the mean. The rainfall continued as a result of LaNina. According to a November 3, 2011 report issued by Guy Carpenter, more than 14,000 businesses have had to close due to the floods. Approximately 1,300 factories in central Thailand have been affected by the floods, including the automobile and electronics industries and international supply chains. According to the Carpenter report, it is expected that insurers might pay out in excess of $5.5 billion in claims. In its recent report JLT Re estimated that the insured losses might reach $13 billion. According to AON Benefield's November 4, 2011 Cat Recap, the flooding has impacted 64 of Thailand's 77 provinces, affecting more than 9.9 million people. Preliminary economic losses have been listed at $9.8 billion, with insured losses already estimated at more than $4.6 billion. All of these estimates are tentative because the flooding has not fully receded impairing the ability to inspect and adjust the claims. Simply put, the floods have affected every facet of life in Thailand from infrastructure to agriculture to commerce.

In an October 19, 2011 blog, Andrew Walker compares the 2011 monthly rainfall totals (January to September) with the 30-year averages for the same months. In Chiang Mai the nine-month total was 140 percent of the average; in Lamphun 196 percent; in Lampang 177 percent; in Uttaradit 153 percent, and in Phitsanulok 146 percent. These few locations give a clear indication that 2011 has been an exceptionally wet year and that this has been widely spread across the Chao Phaya catchment area. Notwithstanding the excessive rain, there are many who feel that the Thai government's management of the dam systems may have contributed to the floods. This school of thought argues that the government should have managed the dams in anticipation of the heavy rain so that when the reservoirs filled they could be relieved gradually without adverse effects on the downstream locations. Instead, the dams were relieved in great magnitude catastrophically adding to the downstream flood levels.

Thus, mismanagement of Thailand's principal dams, Bhumibol and Sirikit may have contributed to the horrific damage that has occurred. According to Mr. Smith Dharmasaroja, head of the Thai Natural Disaster Warning Foundation, "The problem is water management. We kept too much water in the dams early in the rainy season, and now at the end of the season, they have to release a large amount of water at the same time, which has caused floods." He also noted, "This incident does not result from a natural disaster. Our problem is that we do not know how to manage water. We did not assess from the beginning of the rainy season whether there would be lots of rain and how much water should have been held in the dams …. The Irrigation Department and the Electricity Generating Authority of Thailand were afraid they would run out of water in the dry season. They made the wrong guess."

This view suggests that water should have been released from the dams gradually earlier in the year to avoid the sudden increased flow caused by the massive releases in the summer months. The authorities were apparently concerned that rainfall would again be relatively scant, as it was last year, and leave reservoir levels too low for irrigation needs. But this underscores the need for the dams' varied uses to be prioritised. In this case, it seems that flood prevention was deemed less important than irrigation and power generation.

In his blog, Bangkok Pundit cites an October 13, 2011 *New York Times* article by Seth Mydans. In the article Mydans says that experts in water management are blaming human activity for turning an unusually heavy monsoon season into a disaster. The main factors, they say, are deforestation, overbuilding in catchment areas, the damming and diversion of natural waterways, urban sprawl, and the filling-in of canals, combined with bad planning Mydans also cites Dharmasaroja, who said the flooding situation this year had been aggravated by poor water management decisions. "They miscalculated the water levels and did not discharge water from the dams

early enough in the rainy season," he said. "The dams are almost full now, so they discharge the water at the same time, and all the discharge water comes down to the low-lying areas."

An October 16, 2011 Bloomberg article discussed the various contributing factors to the floods. The Thai Weather Service blamed obsolete equipment for their failure to predict the severity of the storms saying that authorities ignored upgrade requests. The article also discusses Thai dam management claiming that management of the country's largest dam, Bhumibol, may have contributed to the problems. According to dam release records from the Royal Irrigation Department, in June and July, authorities released an average of 4.5 million cubic meters of water per day from Bhumibol Dam as the water level increased to 63 percent of capacity, double the amount stored in the same period a year earlier. Since the 1950s, more than 300 dams have been built to hold water from Thailand's monsoon rains from July to October for use during the rest of the year. Bhumibol and Sirikit, funded by the World Bank after World War II to provide Bangkok with electricity and turn Thailand into a commercial rice exporter, can irrigate 400,000 million hectares (1,544 square miles) in the dry season, an area six times bigger than Singapore. When the rainfall data is considered with the dam release data it is apparent that the dam releases did not keep pace with the rainfall.

The discharge increased to 22 million cubic meters per day on average in August and 26 million in September. From Oct. 1 to Oct. 14, as floods left hundreds of thousands scrambling for temporary shelter, an average of 77 million cubic meters has been released downstream each day, more than 17 times as much as in June and July, the data show. The Sirikit Dam, the countries second-largest that feeds the flooded area, discharge rates averaged 54 million cubic meters per day from Aug. 1 to Oct. 14, five times more than in June and July, according to Irrigation Department data. On Aug. 1, the reservoir was 79 percent full, holding twice as much water as the same date a year earlier. **"If water was released from the dams in a proper way, the flooding would be less severe,"** said Suphat Vongvisessomjai, a water expert who has designed flood defenses across Thailand. "They just kept on collecting water so they have as much as possible to use in the dry season. This is the main problem." Rainfall in July and August was about 25 percent more than the 30-year average, according to the latest available data from the Meteorological Department. Reservoirs at larger dams across the country are 93 percent full on average, compared with 68 percent a year ago, the Irrigation Department said on its website on Oct. 14. So we see at least two potential contributing factors; failure to properly forecast the storms because of obsolete equipment, and failure to manage the water levels in the dams so that a catastrophic discharge might be avoided.

It will be necessary to investigate the dam releases and how they affected insured properties. Hydrologists can evaluate available rainfall and water flow data and compare it to historic information and determine how the dam releases affected the downstream water levels. We are in the process of determining the identities of the corporate operators and individual decision makers for the dams. We also will complete a full review of sovereign immunity in Thailand. If mismanagement contributed to the property damage, insurers may have viable subrogation claims to pursue.

Subrogation is authorized by the Thai Civil Code. The Thai judicial system is similar to some European systems. Like Germany, the Thai system requires the plaintiff to deposit a court filing fee. The Thai fee is equal to 2 percent of the anticipated claim (to a maximum of Baht 200,000 or +/- $6,481.93), if the claim amount is not higher than Baht 50 million (+/-$1,620,483). For claims above Baht 50 million, the court filing fee is Baht 200,000 plus 0.1 percent of the amount of the claim exceeding Baht 50 million. In addition, the court has discretion in applying the "loser pays" rule. Large fee awards are reportedly not common. There are no jury trials and the court directs all discovery among the parties. Significantly, tort claim must be filed within one year of the date on which the claimant became aware of the wrongful act. Prescription can be a difficult and imprecise area of the law in Thailand, so the advice of counsel is essential.

Cozen O'Connor has engaged corresponding Thai counsel to assist us in representing our clients in pursuit of Thai subrogation flood losses. We also have located bilingual experts to serve as forensic consultants. If you need additional information, please feel free to contact one of the authors.