

A-C Fire Pumps Protect New Thai Transit Stations

When building a new subway project that serves a busy metropolis of over 10 million people in Bangkok, Thailand, one of the foremost concerns is the safety of the transit riders. For fire safety at the soon to be crowded subway stations, the Mass Rapid Transit Authority of Thailand turned to ITT Industries, where powerful A-C Fire Pumps stand ready at a string of new subway stations.

In Bangkok, it's said, it's easier to get to heaven than across town. Until the late 1950s, Bangkok, Thailand had a thriving, complex, and efficient streetcar system. But like most cities around the world, the system was replaced by diesel powered buses. As the population grew, so did the traffic. For years now, it has been the same old story - traffic so awful that it can take hours to get to a destination that could be reached more quickly on foot!

During the 1980's Bangkok, the capital city of Thailand, saw its population increase from 8 million to almost 16 million. This big jump has produced some of the most severe traffic congestion and related air pollution problems of any city in the world.

Although there have been various government efforts to improve traffic management, private vehicle ownership has dramatically increased almost 35 percent annually. Within the past ten years this has resulted in average traffic speeds continuing to decline and rush hour periods continuing to increase.

Hellish Traffic Jams Capital

The Mass Rapid Transit Authority (MRTA) of Thailand estimates that commute time now accounts for about one-quarter of the time spent at work with resulting negative effects on business efficiency and productivity. The economic impacts of congestion, when combined with the increasing health impacts from lead-related exhaust pollution, show that Bangkok needs to take more dramatic actions to address its growing traffic problems.

So, the Thai capital, known as Krung Thep - "City of Angels" - and famous for having perhaps the world's most hellish traffic jams is now beginning to see some relief on the horizon. There are important mass transit elements of the city's longer term traffic management plan which offer potential for improving Bangkok's traffic soon. With portions of the subway system and new skytrain (an elevated rail system) now open, residents and visitors alike who used to spend an hour in traffic going from the National Stadium to Sathon



The city of Bangkok has some of the worst urban traffic in the world.

Bridge, for example, can now reach it by train in just 13 minutes. Similarly, the ninety minute trip by car or bus from Sukhumvit Road to Mor Chit, is now only a half hour by rail.

Another important mass transit project for Bangkok is the construction of the south extension of the Blue Line subway system from Ratchada to Hualumphong will most certainly help tourists and commuters desperate to escape the inferno of Bangkok's sweltering, cacophonous boulevards.

And just so that the inferno on the streets above never disturbs the clean and calm environment of the below-ground transit system, it is protected from fire by powerful A-C Pump fire pumps.

The Threat of Tunnel Fires

Broadly speaking, tunnel fires usually involve the systems or the vehicles that pass through it. The nonflammable nature of the tunnel itself suggests that most subway tunnel fires

originate in vehicles and their fuel, cargo, and furnishings. To the extent that tunnel systems and operations cannot control the ignition hazard presented by these vehicles and the conditions brought about by a fire in a confined and often crowded tube, a great deal of thought has to go into extinguishing these fires when they do occur.

Although subway travel is far safer than taking your chances on the open road, fatal subway tunnel and station fires have occurred. As far back as 1903, more than 100 people died in an underground subway station in Paris, France when an empty subway train caught fire.

In 1987 in the Kings Cross subway station, 30 people die when a wooden escalator caught fire in the huge underground complex of train stations and subway lines. And as recently as last year, a cable car tunnel fire in Austria that killed 159 people is a reminder of the dangers of tunnel fires.

A-C Fire Pumps to Protect Growing Ridership

With the safety of transit riders and workers of paramount concern in the construction of the Blue Line, A-C Fire Pump was selected as the pump manufacturer whose products best fit the requirements of the new stations. For over 80 years, A-C Pump has been on the forefront in developing, designing, and custom-building a wide range of fire pump systems including prefabricated packages and house units that meet every fire protection need in industrial, municipal and high-rise applications.

The 22 subway stations on the Blue Line will be 20 meters deep, 18 to 25 meters wide and 150 to 200 meters long, depending upon the location. The rails will be on either side of the platforms, except at some places that will require multi-level tunnels.

With trains running every 4-6 minutes and every 2-4 minutes during rush hour, there is an estimated passenger capacity of more than 40,000 passengers per hour per direction. It's also estimated that the system will carry 404,880 passengers per day in 2002-3 with that number estimated to more than double by the year 2020.

Protecting these riders from the threat of a tunnel fire are 22, 8100 series horizontal split case pumps from A-C Fire Pump. Each station will have one pump that has been provided on a skid with standard packaging and a loose controller. Built in ITT Industries' Morton Grove, Illinois manufacturing facility, these 8100 Series pumps have a 1,000 GPM (gallons per minute) rating, with pressure ranging from 130 PSI to 150 PSI. They are all equipped with special controllers and utility backup in case of loss of original power source.

The A-C Fire Pump system equipment is intended to automatically start when there is a pressure loss in the fire pump piping. This pressure loss is most likely an indication that a sprinkler head has been activated due to excessive heat - with the need for water to cool the situation.

With Thailand and the growing city of Bangkok moving steadily into the future of non-polluting urban rapid transit, they can rest easy that the protection from a tunnel fire is being handled by the power and reliability of A-C Fire Pumps.



The Model 8100 pump will help protect riders in the new subway stations along Bangkok's blue line.