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cc: (bcc: NHB NASReg/NHB/SI NGOV)
Subject: (EMBARGOED) Speech by AP Koo Tsai Kee, 19 Nov 99, 8pm
Singapore Government
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SPEECH TO BE GIVEN BY A/P KOO TSAI KEE, SENIOR PARLIAMENTARY SECRETARY FOR THE MINISTRY OF NATIONAL DEVELOPMENT ON THE OCCASION OF THE 33RD ANNUAL DINNER AND DANCE OF THE INSTITUTION OF ENGINEERS, SINGAPORE AT 8:00 PM ON 19TH NOVEMBER AT THE SHANGRI-LA HOTEL.

Er Ong Ser Huan, President of the IES

Friends and Colleagues

Distinguished Guests

Ladies and Gentlemen

1 Twelve years ago, in 1987, when Wall Street crashed, Nobel Laureate Robert Solow, an economist at MTI said it wasn't such a bad thing if the best and brightest returned to science and engineering. Seventy-five years ago, another economist at Stanford, Thorstein Veblen, predicted that one day, engineers would become the financial masters of the earth. He thought it was unfair that venture capitalists,

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stock brokers, financial analysts reap the rewards while engineers dreamed the impossible and turned them into reality. From cars to computers, from the smallest micro-chips to the world's tallest buildings, from the humble telephone to the Internet, engineers have been working diligently to make life on earth heavenly. In the process, engineers have sculptured not just the face of the earth, but also shrunk time and space. Yet, for far too long, fame and fortune have eluded engineers.

2 So has the day of vindication arrived? Yes, says Michael Lewis in his book "The New, New Thing : A Silicon Valley Story". It took 75 years for another Stanford professor to realise Thorstein Veblen's prophesy. Today everybody knows Jim Clark, the peripatetic engineer who started three multi-billion dollar companies: Silicon Graphics, Netscape and Healtheon. Lewis illustrates how the brilliant engineers in Silicon Valley humbled the bankers on Wall Street. I am not sure if members here would classify Jim Clark as an engineer under the traditional classification of engineering. But Time magazine did and he is certainly the engineers' hero. In Singapore we have our own engineer-entrepreneur Sim Wong Hoo whose climb to success is just as remarkable.

3 My main objective in highlighting the Jim Clark story is to celebrate the work of engineers, and to affirm the view that you are the greatest creators of wealth in history. And engineers are living in exciting times. My secondary objective is to give encouragement to those who consider themselves failures. There are no failures unless we concede victory. Jim Clark's success was born out of his many failures in school, in the navy, in his marriages and in his academic careers. Each of these failures sowed the seed of success in Silicon Graphics, Netscape and Healtheon. I recommend all to read Michael Lewis's book for inspiration as well as entertainment.

In Singapore the footprints of engineers are everywhere. From manufacturing to construction, and from banking to politics, engineers have put their skills to benefit the nation. Operating within a stable political climate, engineers have transformed this mosquito infested island into a world class metropolis.

5 The work of building Singapore is still continuing at a hectic pace. In the last five years, the construction industry accounted for an average of 8.2 % of Singapore's annual GDP. The construction industry is also one of the five pillars of our economy. However, while the construction industry is an important one, it is not very productive. In fact, it is a laggard. Year after year, it chalked up negative productivity. I hasten to add that the problem does not lie with our engineers. They are well qualified and highly professional. Rather it is a sad reflection of construction practices which have not changed with times. Construction 21 was an effort to rectify some of the major flaws in the industry. Initially there could be some pain for the industry as the number of foreign workers are cut back. But this should be compensated by higher productivity when the industry switches to more buildable designs. The feedback I got from the industry is that we can speed up the implementation of buildable designs in order to pull up our productivity figures. I will ask BCA to look into fast tracking the implementation of buildable designs.

6 In order to facilitate this move to a more productive environment, the Building and Construction Authority will also gradually switch from a prescription based regulatory environment to a performance based environment. This means that

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instead of prescribing rules as to what can, and what cannot be done, the BCA will only spell out performance standards. The industry players will choose the most efficient routes to achieve those performance standards themselves. I wish to caution that the pace of this change will be dictated by the state of the industry. For example, in theory, BCA could do away with some of the site supervision requirements if contractors could guarantee safety and quality. In practice, I don't think the industry is quite ready to dispense with clerks of works and residential engineers. Also in theory, we can dispense with Accredited Checkers. In practice, I think we have to live with Accredited Checkers for quite a while. I hope to see a day when all the professional bodies and Professional Engineers will come to BCA and say "Let's scrap the Accredited Checking system, it is no longer relevant".

7 Still, the change in regulatory philosophy from prescription to performance based would afford more flexibility and leeway to the industry. Engineers can do what is best for their clients, rather than follow the rules and regulations of the BCA rigidly. However, a performance based system places more responsibilities on the shoulders of the industry. In particular, professional bodies like the IES, Professional Engineers Board, and the Board of Architects will have to regulate their members more vigilantly for standards of excellence and failures. These bodies will have to set high standards of integrity, best practices and enforcements.

8 The BCA is making this environmental change even though there is no evidence to suggest that regulatory compliance costs in Singapore is high. In order to allay misconception that the cost of construction in Singapore is high, the BCA commissioned a study. A multi-disciplinary team made up of an architectural firm, an engineering company and a quantity surveying firm was asked to examine if it was true that compliance cost in Singapore is much higher than elsewhere in the Asia Pacific Region.

9 The team benchmarked Singapore's regulatory requirements against HK, KL, and Sydney. It found that if similar buildings were built in Singapore using each of the three city's building regulations, the savings were only marginal, of between 2.4 to 4.6 %, and this despite the fact that Singapore has about 20 regulatory items which are more stringent than them. But the savings must be viewed in perspective to our unique circumstances and our high standards of the built environment. For example the requirement to have civil defence shelters is something unique. We all agree that this is a small price to pay for a safer environment even though this item contributed a significant part of the cost increases in Singapore compared to HK, KL and Sydney.

10 If the engineers in Silicon Valley are conquering Wall Street, I think the achievements of our contractors deserve a special comment. I was told that there are more construction or construction related companies listed on our local stock market than on Wall Street. I haven't had time to verify this statement, but if true, I think I should drop Michael Lewis an e-mail and tell him that in a quiet way our civil engineers - many of whom are contractors - have made history like those in the Valley, albeit on a different financial scale.

11 I wish to take this opportunity to salute the achievements of all our engineers. In the last 34 years of independence, the IES has been a partner of Singapore's progress for 33 years. I wish the IES and Singapore many more years of ktk19991119d

symbiotic growth.

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