

ADVANCING THE SRI LANKA STANDARD TIME

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Abstract- For convenience, the difference in standard times between two places on the globe is an integral multiple of the hour. Only in a few countries in the world-perhaps less than ten- do the Standard Times differ by non-integral multiples of the hour. Many countries in the Asian Region have already adjusted their standard times but Sri Lanka still remains one of those exceptions. This paper examines the reasons that lead the Cabinet to recommend in 1984 the advancement of the Sri Lanka Standard Time by half an hour- a recommendation that still awaits implementation.

INTRODUCTION

Sri Lanka Standard Time is at present five and a half hours ahead of Greenwich Meridian Time.

On 13 October 1884 an agreement was signed by twenty two countries in Washington DC setting the Meridian passing through the transit instrument at the Observatory at Greenwich as International Meridian for Longitude.

ZONAL TIMES

The local times at two different places on the Globe differ according to the difference in the longitudes of the two places. For every 15° difference in longitude, the difference in time is one hour. For convenience, the world has been divided into time zones. Whilst the time within any zone remains the same - known as the zonal time - the times from zone to zone differ by the hour. For instance, in the zone lying between longitudes $7.5^{\circ}W$ and $7.5^{\circ}E$, the zonal time is Greenwich Meridian Time. In the zone lying between longitudes $7.5^{\circ}E$ and $22.5^{\circ}E$, the zonal time is an hour ahead of Greenwich Meridian Time and so on. It will be noticed that as one goes round the globe, the times in the

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zones vary between 12 hours before GMT and 12 hours after GMT. There is thus a change of one day as one crosses the longitude $180^{\circ}E$ (or W) - this is known as the International Date Line.

STANDARD TIMES

Most countries set their standard times as close as possible to their zonal times. It is convenient for a country to set the same standard time throughout its region. If the country is very large, it will be divided into different zones where the time differs - often in hourly intervals. For instance America and Australia have different zones with different standard times.

It has been observed that most countries choose as their standard time the time zone into which most of the country falls or an hour ahead of that time zone. Inherent in this decision is a desire to optimise the availability of daylight - properly called daylight saving.

Britain first introduced summer time with a view to having daylight savings. Summer time is one hour ahead of Britain's standard time which is GMT. Summer time operates only during summer. This concept had been found to be socially acceptable and has since been extended to Europe and the United States of America. Britain has also attempted, as an experiment, to advance the time by one hour throughout the year from October 1968 to October 1971.

In the Soviet Union, official time is an hour ahead of zonal time.

Most countries have their standard local time differing from GMT in multiples of the hour as seen in Table 1. There are very few exceptions. Western Malaysia and Singapore which were also some of the exceptions, had, about seven years ago, changed their standard times and are now set at an hour ahead of their zonal times. More recently, Bangladesh, Bhutan, Pakistan and the Maldives who were also some of the exceptions have now adjusted their standard times to fall in line with their zonal times.

Adelaide	9.30 p.m.
Aden	3.00 p.m.
Auckland (NZ)	Midnight
Bahamas	7.00 a.m.
Bangkok	7.00 p.m.
Beijing	8.00 p.m.
Berlin	1.00 p.m.
Bombay	5.30 p.m.
Brisbane	10.00 p.m.
Chicago	6.00 a.m.
Colombo	5.30 p.m.
Czechoslovakia	1.00 p.m.
Dacca	6.00 p.m.
Fiji	Midnight
Greece	2.00 p.m.
Hongkong	8.00 p.m.
Java	7.00 p.m.
Kenya	3.00 p.m.
Korea	9.00 p.m.
Leningrad	3.00 p.m.
London	Noon
Madagascar	3.00 p.m.
Malta	1.00 p.m.
Maldives	5.00 p.m.
Mauritius	4.00 p.m.
Melbourne	10.00 p.m.
Moscow	3.00 p.m.
New Delhi	5.30 p.m.
Newfoundland	8.30 a.m.
New York	7.00 a.m.
Paris	1.00 p.m.
Perth, W.Australia	8.00 p.m.
Rangoon(Burma)	6.30 p.m.
Rhodesia	2.00 p.m.
San Francisco	4.00 a.m.
Shanghai	8.00 p.m.
Singapore	8.00 p.m.
Taiwan	8.00 p.m.

Table 1- Times in different cities when it is 12.00 Noon GMT.

The only remaining countries that have their local times at variance with the zonal times are the following countries :-

Iran	-30'	Burma	-30'
Afghanistan	-30'	North and South Australia	+ 30'
India	-30'	Newfoundland	+ 30'
Sri Lanka	-30'		
Nepal	-20'	Surinam	- 30'

THE REQUEST TO ADVANCE SRI LANKA STANDARD TIME

Soon after Malaysia and Singapore had advanced their clocks with a view to removing the discrepancy in time of that odd half hour and also set their standard times ahead of zonal time by one hour as a measure towards day light saving, a Sri Lankan visitor to these countries, Mr. Walter Rupasinghe of Kotte had requested His Excellency the President, in 1982, to adjust the Sri Lankan standard time in order to effect day light savings. This request was made at a time when power cuts had been imposed and energy conservation measures were studied and therefore the request was examined by the Ceylon Electricity Board and the Ministry of Power and Energy.

Sri Lanka falls within longitudes 79° 39' and 81° 53' East and therefore falls in the zone, 5 hours ahead of GMT. Her standard time is five and a half hours ahead of GMT. With a view to removing the odd half hour and also effect daylight savings it was proposed that the Sri Lanka Standard Time be advanced by half an hour so that it is set at 6 hrs. ahead of GMT. which is also one hour ahead of her zonal time. See table 2.

(A) at present Standard Time

(B) if Standard time is advanced by 1/2 an hour in Sri Lanka.

	A	B
Adelaide	4.00 p.m.	3.30 p.m.
Aden	9.30 a.m.	9.00 a.m.
Auckland (NZ)	6.30 p.m.	6.00 p.m.
Bahamas	1.30 a.m.	1.00 a.m.
Bangkok	1.30 p.m.	1.00 p.m.
Beijing	2.30 p.m.	2.00 p.m.
Berlin	7.30 a.m.	7.00 a.m.
Bombay	Noon	11.30 a.m.
Brisbane	4.30 p.m.	4.00 p.m.
Chicago	12.30 a.m.	Midnight
Colombo	Noon	Noon
Czechoslovakia	7.30 a.m.	7.00 a.m.
Dacca	12.30 p.m.	Noon
Fiji	6.30 p.m.	6.00 p.m.
Greece	8.30 a.m.	8.00 a.m.
Hongkong	2.30 p.m.	2.00 p.m.
Java	1.30 p.m.	1.00 p.m.
Kenya	9.30 a.m.	9.00 a.m.
Korea	3.30 p.m.	3.00 p.m.
Leningrad	9.30 a.m.	9.00 a.m.
London	6.30 a.m.	6.00 a.m.
Madagascar	9.30 a.m.	9.00 a.m.

(table 2 contd.)

Malta	7.30 a.m.	7.00a.m.
Maldives	11.30 a.m.	11.00 a.m.
Mauritius	10.30 a.m.	10.00 a.m.
Melbourne	4.30 p.m.	4.00 p.m.
Moscow	9.30 a.m.	9.00 a.m.
New Delhi	Noon	11.30 a.m.
New foundland	3.00 a.m.	2.30 a.m.
New York	1.30 a.m.	1.00 a.m.
Paris	7.30 a.m.	7.00 a.m.
Perth (W. Australia)	2.30 p.m.	2.00 p.m.
Burma	1.00 p.m.	12.30 p.m.
Rhodesia	8.30 a.m.	8.00 a.m.
San Francisco	10.30 p.m.	10.00 p.m.
Shanghai	2.30 p.m.	2.00 p.m.
Singapore	2.30 p.m.	2.00 p.m.
Taiwan	2.30 p.m.	2.00 p.m.

Table 2- Times in different cities when it is noon in Colombo.

When the clocks are 'advanced' by half an hour, the usual activities are performed half an hour earlier. As a result, in the evenings, at dusk, there is half an hour 'extra' of sunlight whilst in the mornings, at dawn, there is half an hour less of sunlight. As intensity of activities in the evenings is greater than the intensity of activities in the early mornings, there is an overall saving. The activities of people are, by and large, controlled by the clock although some, particularly those who are not governed by the clock, are controlled by the times of sunrise and sunset.

In 1982, the evening peak load was estimated at 152MW and the weekend peak load at 162 MW. It was estimated that the effective gain in electricity savings if the clocks were advanced by half an hour was 58 MWh per day on a week day and 73 MWh per day on a week end. As, in a year, there are 232 equivalent working days and 133 equivalent weekend days (including holidays) the savings over a year was 23 Million kWh, or about 1% of total generation in 1982. The estimated savings in 1989 is around 33 Million kWh, equivalent to about Rs. 50 million annually. There is also a saving in the use of kerosene and other fuel for lighting in the houses that do not have access to electricity. This subject was again discussed at a seminar on Energy Conservation held at the Presidential Secretariat in July 1983.

The Cabinet agreed in January 1984 to advance the Sri Lanka Standard Time by half an hour and decided that the Committee of Development Secretaries should coordinate the implementation of this proposal.

This proposal came up at a time when the country was looking for ways and means of implementing energy conservation measures. Although energy savings in this proposal are only marginal, the main savings would come from removing that odd half hour difference in time and ease international communications. When Dr. Arthur C Clarke heard of this proposal, he wrote in October 1983 to His Excellency the President.

"For almost twenty years I have been advocating the need to advance Sri Lanka time to GMT plus 6 hours, as the present odd 30 minutes is a great nuisance to air travelers, listeners of foreign radio broadcasts, and above all, to the rapidly increasing number of people making international phone calls. The advent of international satellite TV will make it even more intolerable."



Mr G B A Fernando is Director, Energy Planning in the Ministry of Power and Energy, Sri Lanka and is a Member of the Environment Council of Sri Lanka. He has been the National Project Director of the UNDP funded Industrial Energy Conservation Programme. He has represented Sri Lanka at many United Nations and Commonwealth conferences on Energy. He has chaired the meetings of the Steering Committee of the UNDP funded Regional Energy development Programmes on many occasions and was the Rapporteur at the Global Meeting on New and Renewable Sources of Energy in March 1988 in New York.

Mr. Fernando entered the University of Ceylon winning the open Entrance Scholarship. He graduated with First Class Honours in Mathematics in 1958. He was appointed to the permanent academic staff of the University in 1959 and also won the coveted Ceylon Government University Scholarship which enabled him to read the Mathematics Tripos at Cambridge University, U.K. He was the first Sri Lankan fellow at the International Centre of Theoretical Physics in Trieste and has followed an IAEA Inter Regional Programme on Nuclear Power Planning and Implementation at the Nuclear research Centre in Karlsruhe, West Germany.