

REPORT

INTRODUCTORY

The New Telecom Policy, 1999 (NTP-99), *inter-alia* envisages affordable telecommunication services to the common man, benefits of value added services like internet equally to urban rich as well as rural poor and abolition of digital divide. It also states that the roll out should be fast enough to achieve the projected tele-density of 15 by the year 2010. The above objectives are apparently to be achieved through the application of different available technologies i.e., traditional wireline, CDMA WLL and GSM wireless. Telecom Industry and Services Association of India (TISA) which represents units manufacturing and assembling various types of New Technology Digital Switches (NTDS) represented to the Committee that Bharat Sanchar Nigam Limited (BSNL) had decided to procure for the year 2002-2003 only what are termed CDMA WLL switches excluding any purchase of New Technology Digital Switches (NTDS) from various sources in India. TISA apprehended that such a decision would have an adverse impact on India's overall national interests in general and NTDS manufacturers in particular. The representatives of TISA further apprehended that this decision of BSNL aimed at complete replacement of traditional wireline switches by CDMA WLL switches would most likely destroy an industrial and employment base that has been established with considerable effort from both private as well as public sector. In view of the public interest involved, the Committee decided to examine the issues in depth.

Areas of Concern

2. Giving a background of the areas of concern, the President, TISA stated that their manufacturing units were wholly indigenous, these have been in existence for the last ten years and consisted of well-known Indian Companies backed by the latest technology from world renowned companies like Alcatel, Ericsson, Nokia and other companies as well as by C-DoT. Presently indigenous C-DoT technology Industry is stated to be producing goods worth more than Rs.3,000 crores per annum and has employed a large work force i.e., more than 10,000 for NTDS and 40,000 to 50,000 for C-DoT switching

equipment. For the last ten years, these units have been supplying newly developed hi-tech switches to BSNL and MTNL which together had been purchasing around 97 per cent of NTDS. Therefore, any purchase policy which these companies follow has a tremendous impact on the growth of this indigenous industry.

3. In response to a specific query, it has been stated that there are six manufacturers of NTDS, namely Alcatel India Limited, Siemens Public Communication Networks Limited, Indian Telephone Industries Limited, Hindustan Teleprinters Limited, Lucent Technologies India Limited and Erisson Communications Limited. These manufacturing units were set up during 1992-93 in a phased manner, with encouragement from Government of India, particularly the Department of Telecommunications (DoT), so that India could become self-reliant as far as NTD switching products are concerned. The capacity of each manufacturing unit has been stated to be more than six million lines per year and the total investment of all these manufacturing units taken together amounts to Rs.19,000 crore to Rs.20,000 crore in terms of infrastructure, machinery and other equipments required to manufacture high quality Switching Products.

4. Besides these six manufacturers of NTDS, there are stated to be 30 more private/public sector units which manufacture small switching equipments based on C-DoT technology. During the last 10-12 years these units have produced equipments worth Rs.6,451 crore.

5. It has further been stated that till date more than 35 million lines of New Technology and C-DoT switching products have been supplied by the indigenous factories. Moreover, because of continuous upgradation, NTD switches are compatible to any wireless technology like GSM and CDMA WLL. Therefore, a sudden decision by BSNL to substantially reduce the procurement of these switching equipment may destroy the huge industrial base created so far.

6. Clarifying the position in reply to a query by the Committee, the President, TISA stated that a decision had been taken by BSNL that for the year 2002-2003, they would not buy NTDS product manufactured by the Indian factories. The adverse impact of this decision on the local industry according to the witness would be tremendous because if no order was placed for one full year, all indigenous factories will be starved of orders resulting in huge losses to them and the very existence of these factories will be

threatened. Moreover, a large number of employees, many of whom are trained technicians, will lose their jobs.

7. The Committee asked if BSNL was not going to purchase the equipment from indigenous producers, what could be its sources of procurement. In reply, the President, TISA stated that apart from purchasing NTD switches, BSNL had been purchasing CDMA switches as well which were also used in WLL applications. CDMA switches were not being produced in India which implied that the entire purchase by BSNL for the year 2002-2003 would be based on imports. This, in fact, went against the procurement policy followed by BSNL for the last ten years when every tender contained a provision that the goods purchased would have to be made in India. In case, it was not being manufactured, the tenderer was to promise that it would be done within a foreseeable future. Accordingly, DoT decided in the year 1992-93 that only Indian manufacturers would be given orders for supply of the switching equipments.

8. The second point TISA has highlighted is that the thrust of the Telecom Sector, as has been spelt out by NTP, 1999, is to introduce what is known as, 'Broadband' so as to enable the people, Corporate Sector as well as the Government to transmit as much data or voice as possible at lower costs. By using CDMA applications all over the country, it will not be possible to achieve broadband features as CDMA gives very narrow band transmission possibilities.

9. Further, using CDMA WLL as replacement of NTDS or even by reducing the demand for the latter will mean that the subscriber will not get the benefit of Internet Services nor that of tele-medicine, tele-education etc. including ISDN services.

10. It has also been submitted to the Committee that the capital cost for providing WLL solutions as compared to traditional wireline technologies has been considerably higher. For instance, the cost of each fixed Direct Exchange Lines (DELs) inclusive of all associated equipment has been around Rs.22,000/- (approx.) including the cost of the Exchange Switches, Outside plant equipment, cables, transmission equipment etc. The total cost of WLL switch comes to Rs. 23,000/- inclusive of Fixed Wireless Terminal (FWT), battery charger etc., whereas the cost of NTDS is only Rs. 2,700/- per line.

11. The President, TISA further stated that application of CDMA WLL switches has not been cleared by the Telecom Engineering Centre (TEC) whose approval is required before any network gets into operation.

12. Another point highlighted by TISA is that whatever policy the Government of India follows *vis-à-vis* the telecom technology, that must be in conformity with the International Telecom Union (ITU) standards which so far forbid use of A+ interface. But BSNL has to go for A+ interface should it wish to deploy CDMA WLL switches throughout the country.

13. TISA further contended that BSNL's intended deployment of CDMA WLL switches is against the very thrust of the licence condition because the license agreement for basic service operators clearly stipulated that every operator has to establish a point of presence (PoP) in each short Distance Charging Area (SDCA) which has obviously to be a local exchange to ensure connectivity to the local loop whether it is wireline or wireless. If WLL switch is used to replace NTDS, this condition would be violated as no PoP will be established.

14. As regards the outgo of foreign exchange in case of procurement of WLL switches, the Committee has been informed that if the Companies who are supplying these equipment to BSNL do not have any plan to manufacture but to import these switches, then based on the plan of BSNL to procure one million lines, the total import in terms of foreign currency will be approximately \$4,500 million.

15. The features of NTDS *vis-à-vis* that of WLL has been tabulised by TISA in the following manner:

<u>Features of NTDS</u>	<u>Corresponding feature of CDMA WLL</u>
(i) Broad band	Narrow band
(ii) Possibility of Internet application	No such possibility
(iii) Lower cost	Relatively much higher cost
(iv) Low tariff	Higher tariff
(v) Proven Technology (VS2 standard)	Not yet fully proven (Doubtful A+ standard)

16. In view of the above comparison, TISA has submitted that any attempt to replace/reduce the demand for NTDS will not help in giving the subscribers more efficient telecom services at lower costs, nor it can be termed progress of technology.

17. The Committee pointed out that CDMA WLL technology was intended to be used to enable BSNL/MTNL to reach inaccessible and technically non-feasible (TNF) areas. Therefore, if the same has been intended to be deployed to increase the teledensity of the country, the indigenous industry should nurture no grudge and rather it should try to changeover its production line. A representative of TISA stated that provision of WLL technology in inaccessible and TNF areas has not been a matter of concern to the Association. Rather they are concerned that in urban areas, where lakhs of copper lines are already available, the Department does not make use of those copper lines through the available technology.

18. The President, TISA supplemented his colleague saying that both the traditional wireline and WLL technologies are equally important to increase the teledensity of India. If one is intended to be used at the complete exclusion of the other, then the problem arises. He summed up by stating that both the technologies should be allowed to run in a parallel manner for the next two/three years by which time the indigenous manufacturers would be geared up to meet the new challenges.

Views of TRAI

19. The Committee desired to hear the views of the Telecom Regulatory Authority of India (TRAI) on the decision of BSNL not to purchase NTDS during the financial year 2002-2003. The Chairman, TRAI stated that the Regulatory body had no comments to offer because any operator was free to take any action as it deems fit to buy any particular kind of switch for its own strategy and roll out.

20. The Committee asked whether the above decision of BSNL would be purely governed by market economy disregarding public interest. The Chairman, TRAI replied that no public interest has been involved in BSNL's move to purchase WLL switches during 2002-2003.

21. The Committee then asked what would be the impact of this sudden decision of BSNL upon the indigenous manufacturers who have invested heavily in developing

NTDS. The Chairman, TRAI stated that the points raised in TISA's representation did not present a correct picture because no C-DoT developed switch was being substituted altogether. It is just a question of strategy for the time being which does not in any manner indicate that BSNL is going to drop indigenous wireline technology altogether. This strategy of BSNL has been precipitated due to the fact that the demand for wireline basic telephones has been sagging a little of late. Therefore, it is quite likely that BSNL is thinking of going more aggressively in those areas where they have so far not been able to reach through the copper line.

22. The Chairman, TRAI emphatically stated that BSNL would not be able to do without C-DoT switches. Of the 33,000 exchanges over which BSNL's network is wide spread, C-DoT exchanges will continue for sometime to come. It all depends on in which area a particular kind of competition is being faced and in these areas some change in the technology may be considered by the operators. So, to say that C-DoT technology will be totally removed is not correct, submitted the Chairman, TRAI.

23. As regards the other concerns of TISA that cost of WLL switches are higher in comparison to NTDS switches, that the WLL switches do not have broad-band facilities etc., the Chairman, TRAI clarified that the figure quoted by TISA with regard to the cost of per line WLL switch is not correct. According to TRAI, it may work out to anything between Rs. 7,000/- and Rs. 10,000/- per line. Further, the cost i.e., Rs. 2,700/- per line of the traditional switches as pointed by TISA, is never the same beyond the exchange. Moreover, CDMA WLL technology is quite synergetic to broad band.

24. The Committee specifically asked to what extent deployment of CDMA WLL technology would help increase the teledensity of the country. The Chairman, TRAI stated that teledensity of the country is projected at 15 by the year 2010 and that can not be achieved by one single technology. He further submitted that the main problem has been the last mile connectivity in the villages which are far away from Exchanges. Wireless will be one of the most potent ways of reaching those villages/areas where either wirelines can not go or even if it goes, it becomes highly expensive. Therefore, to a certain point WLL will play a major role in the development of tele-density of the country. But that does not mean that other technologies will be overlooked. Rather, the

requirement of rural telephony will be met by both wireline and wireless technologies, the main thrust being upon the cost-effectiveness and the most affordable way of doing it.

25. In response to a query of the Committee as to the cost effectiveness of the C-DoT switches, the Chairman, TRAI stated:-

“.....the cost-effectiveness of C-DoT Switches in my opinion, will continue to be low for quite sometime to come.”

Clarification of DoT

26. In response to the concerns of TISA over BSNL's decision not to procure any NTDS during the year 2002-2003, the Department of Telecommunications (DoT) has clarified that in order to achieve the objectives of tele-density, BSNL has prepared a main plan for providing 75 lakh DELs and an alternate plan for 64.34 lakh DELs during the year 2002-2003. The alternate proposal for 64.34 lakh DELs includes 22.90 lakh wireline, 11.94 lakh WLL and 29.50 lakh GSM. In order to meet the target of 22.90 lakh DELs through wireline, approximately 3 million lines of switching capacity is required to be added. BSNL, during 2001-02, had placed order/taken action for placement of orders for approximately 5 million fixed lines. Out of this, approximately 3.5 million lines are to be supplied in the current year *i.e.* 2002-2003 as the orders were placed late in 2001-2002. This includes more than one million lines of C-DoT equipment to be received during the current year. Thus, based upon the orders in pipeline, BSNL would not require any additional wireline equipment for meeting the net switching capacity and the DEL targets for the year 2002-2003.

27. It has further been stated that once the targets for the year 2003-2004 are approved by the Planning Commission, BSNL would take action for procurement of wireline equipment including C-DoT equipment for the next year. The procurement action would be initiated in the third quarter of the current year so that supply starts flowing from April, 2003.

28. The Secretary, DoT clarified in evidence that WLL is not a switch, it is only an access technology which becomes available from the switch upto the consumers.

Therefore, WLL does not do away with the use of switch. Procurement of wireline switches has been taking place and thus, the apprehension of TISA that the entire wireline switches for the year 2002-2003 has been intended to be replaced by WLL is not based on facts.

29. As regards the unproven character of the WLL CDMA technology, as alleged by TISA, the Department clarified that WLL equipment based upon CDMA technology is a proven technology and a very large number of such equipment have been deployed all over the world. BSNL also had taken action for procurement of approximately 7 lakh lines of WLL equipment out of which approximately 4 lakh lines were deployed last year on the basis of TEC approval.

30. The Secretary, DoT further apprised the Committee that WLL equipment has been quite capable of internet connectivity whereas the earlier MARR system did not allow for such connectivity. He elaborated that WLL equipment based upon CDMA technology would have the facility of providing 14.4 Kbps internet connectivity which would be upgradeable to 144 Kbps. Similarly, WLL equipment based upon CORDECT technology in rural areas would provide internet connectivity upto 70 Kbps. Hence, the apprehension that the rural poor would be deprived of internet benefits is not based on correct assessment of the situation.

31. The Department has further clarified that BSNL does not have any plan to go for A+interface. At present it is going in only for V 5.2 interface.

32. It has also been stated that the cost comparison between WLL and fixed wireline, as brought out by TISA, is not correct. The present WLL system costs approximately Rs.16,000/-including the cost of fixed wireless terminal whereas in the case of wireline, the equipment cost is Rs.2,700/-, the external plant cost is Rs.20,000/- and the fringing cost is Rs.1,300/-. Thus the total cost of fixed wireline comes to Rs.24,000/- which is much higher than the wireless system.

33. As regards the outflow of foreign exchange, the Department has clarified that payment is being made only in Indian rupees in all cases and hence as far as BSNL is concerned, there is no outflow of foreign exchange in the purchase of WLL equipment.

34. The Committee desired to know how and when BSNL took the decision to purchase equipment not manufactured in India. In reply, it was stated that the policy of procurement of materials not manufactured in India has not been changed and is as follows:-

“Only Indian Companies registered to manufacture the tendered item or the Indian Companies registered to manufacture the telecom item duly authorised by foreign manufacturer and having proper MoU with a manufacturer for maintenance support of the equipment during the life span are eligible to participate”.

35. In evidence, the Committee asked whether there has been any assessment by BSNL, of the impact of the decision under discussion, on the Indian manufacturers and C-DoT technology. The Secretary, DoT replied that there would be no impact immediately because orders have already been placed and for the current year supplies would be made thereby benefitting the existing manufacturers. But when the A+interface, that is being talked about, comes into being, then surely one category of manufacturers will get affected.

36. The Member (S), Telecom Commission added that if a product does not undergo upgradation, which is a necessity in telecom sector, naturally that product will not sell.

37. The Committee asked whether indigenous C-DoT switches would be phased out altogether. The Member (S) replied that there has been no plan to phase out the C-DoT switches which would continue to be procured, more or less, depending upon the demand. He further stated that the cellular demand has been gradually outstripping the

fixed line demand and to that extent the impact upon indigenous manufacturers of wireline switches would be much more rather than due to deployment of WLL systems.

38. In view of the fact that almost all the apprehensions of TISA were found to be based on incorrect assumptions, the Committee pointed out why the Department was not taking any action to have a dialogue across the table with representative of TISA to remove their misunderstandings, more so when they have been supplying their products to DoT/BSNL/MTNL over so many years. The Secretary, DoT replied:-

“We will take it in a very positive and constructive way..... and definitely hold an interaction with these people”.

39. In a post-evidence communication, the Committee was apprised that the Department held a meeting with the President, TISA and other representatives of the Industry to discuss the issues raised in their representation to this Committee. The Department gave point by point clarification on the issues raised by TISA. The President, TISA is reported to have admitted that due to some misunderstanding of facts, such points were raised in the representation. It was further decided in the meeting that the representatives of TISA might come out with their suggestions and solutions for finding a way out for such problems. It was also decided to set up a Task Force for looking into such problems.

40. The President, TISA also subsequently informed the Committee that their meeting with the officers of DoT/BSNL served to clear the information gap as BSNL's various decisions were clarified. He further stated that the decision to seek suggestion from the industry as to how the problem could be solved was indeed satisfactory, so also the decision to have a Task Force consisting of representatives of manufacturers together with the senior officers of BSNL and MTNL. In view of the above two decisions, the industry once more feels a sense of relief, the President TISA concluded.

41. The Committee observes that placement of orders for CDMA WLL switches and denial of orders for New Technology Digital Switches (NTDS) by BSNL during the financial year 2002-2003 has turned out to be a matter of serious concern for the manufacturers of indigenous New Technology Digital Switches (NTDS) represented by Telecom Industry and Services Association of India (TISA) who apprehended that this decision of BSNL would aim at wholesale replacement of traditional wireline switches by CDMA WLL and feared that procurement of NTDS may not take place at all in future. The Department of Telecommunications (DoT) has clarified that the alternate plan worked out by BSNL for 64.34 lakh Direct Exchange Lines (DELs) during the year 2002-2003, included 22.90 lakh wireline switches besides 11.94 lakh WLL and 29.50 lakh GSM. It has been clarified that approximately 3 million lines of switching capacity are required to meet the target of 22.90 lakh DELs through wireline. During the year 2001-2002, BSNL had placed orders for approximately 5 million wireline switches out of which approximately 3.5 million lines are to be procured in the current year *i.e.* 2002-2003 as the orders were placed late in 2001-2002. Thus, based on the orders in pipeline, BSNL would not require any additional wireline equipment for meeting the net switching capacity and the DEL targets for the year 2002-2003. Here, the Committee would like to point out that due to delayed placement of orders for the year 2001-02, BSNL has an excess carry forward of delivery of approximately 2 million lines of NTDS from previous year's order and this delayed action led to misapprehensions. The Committee in almost all its Reports, has always been emphatic for timely and transparent action, be it placement of orders or procurement of equipment or taking any other decision. Since that was not done, TISA's apprehensions were more or less justified taking into consideration the fact that this indigenous C-DoT technology Industry consisting of reputed Indian Companies and armed with latest technology has supplied, during its existence of ten/twelve years, more than 35 million lines of New Technology and C-DoT switching products worth approximately Rs.6,451 crore. Moreover, with a work force of around 50,000 people and a total investment of Rs. 19,000 crore to Rs.20,000 crore, it is but natural

that TISA was quite concerned at the possible destruction of this huge industrial base in the event of BSNL not going in for traditional wireline switches in the coming years.

42. The Committee does not subscribe to the view that any operator is free to take any action as it deems fit to buy any particular kind of switch for its own strategy and roll out and that no public interest is involved in BSNL's move to purchase WLL switches during the year 2002-2003 since such decisions are bound to adversely affect an industrial base with Rs.20,000 crore investment and direct employment of 50,000 workforce. Moreover, WLL technology has been invented primarily for inaccessible, remote, far-flung and TNF areas where either wireline cannot go or even if it goes, it becomes highly expensive. But in urban areas, where land lines are already available, the Department/BSNL/MTNL should make use of those lines through the already established wireline technology and people should not be compelled to go in for WLL technology, without being given an option. In other words, the decision of any operator should not be purely governed by market economy disregarding public interest and DoT has a larger role to play in it.

43. The Committee appreciates the clarifications and assurances made by both the Chairman, TRAI and the Secretary, DoT to the effect that BSNL would not be able to do without C-DoT switches and once the targets for the year 2003-2004 are approved by the Planning Commission, BSNL would take action for procurement of wireline equipment including C-DoT switches for the next year. The Committee trusts that orders for NTDS will be processed as early as possible for the next year so that the indigenous industry is not made to suffer for long without any substantial orders. After hearing both the sides, the Committee also feels that the placement of orders for CDMA WLL equipment is a situational strategy for the time being precipitated by a recent drop in demand for wireline basic telephones thereby urging BSNL to go more aggressively in those areas where they have so far not been able to reach through copper line. That does not necessarily mean that the BSNL is going to ignore the traditional wireline technology. Rather, both wireline

and wireless technologies have to run in a parallel manner, at least for another few years, to give a fillip to the tele-density of the country.

44. The Committee notes that tele-density of the country is projected at 15 by the year 2010 which cannot be achieved by any single technology, as has been submitted by the Chairman, TRAI and the Secretary, DoT. As a matter of fact, the requirement of rural telephony will be met by both wireline and wireless technologies. Therefore, the apprehension of TISA that usage of WLL technology will not be tantamount to progress of tele-density does not hold good, more so in light of the fact that the main problem has been the last mile connectivity in the villages which are far away from Exchanges. There, WLL will act as one of the most potent ways of providing connectivity and thereby increasing tele-density of the country.

45. The other allegations/apprehensions of TISA that WLL is not synergetic to broadband transmission facilities; that the cost of providing WLL solutions is considerably higher as compared to traditional wireline technology; that application of CDMA WLL technology has not been cleared by TEC; that BSNL is going for A+interface in deployment of CDMA WLL; that BSNL's decision to deploy CDMA WLL is against the very thrust of the licencing condition and that there would be considerable outflow of foreign exchange in the purchase of CDMA WLL equipment, have been negated by both TRAI and DoT. The Committee is of the view that such apprehensions of TISA are not based on facts and trusts that in the process of placement of orders for CDMA WLL equipment, the licencing condition, which intends to protect the interest of indigenous manufacturers, is not violated under any circumstances.

46. The Committee notes that there would be no immediate impact upon the indigenous manufacturers by the decision of BSNL to go for V-5 interface CDMA WLL equipment. But when the A+interface, that is being talked about, comes into being, then surely these manufacturers will get affected unless they upgrade their products. Under the circumstances, it seems imperative for the indigenous

manufacturers to diversify and upgrade their product line, sooner than later, so that they remain in contention. The Department, on its part, should extend all possible opportunities including sufficient time for such a change over in order to enable the indigenous manufacturers to gear up, meet and sustain the new challenges.

47. The Committee is happy to learn that on its suggestion, the Department took a meeting of the industry representatives to discuss the issues raised in their representation and their misapprehensions have been removed. A decision was taken to seek suggestion from the industry as to how the problem could be solved, besides constituting a Task Force consisting of industry representatives and senior officers from BSNL/MTNL to discuss, from time to time, the problems of procurement, technology and its impact upon future orders etc. The Committee feels that had such a Task Force been functioning earlier, all apprehensions of TISA generated due to information or communication gap could have been avoided. However, now that such a Task Force has been constituted, the Committee trusts that it would consistently endeavour to help the vendors and the vendee to work in tandem.

48. To sum up, the Committee finds that all the misapprehensions and misunderstanding of TISA emanated for two reasons – one is delayed action for placement of orders during the year 2001-2002 and the other is the lack of communication between vendors and the DoT/BSNL. Once the matter was discussed sitting across the table, all misapprehensions and fears were removed. Needless to mention, timely action and sorting out the problems amicably will not allow any such misapprehension to resurface in future which will certainly augur well for the Industry, the Government and the Country as a whole.

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