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W.P. No.2007-10-02

October 2007

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Spectrum Allocation for 3G in Philippines: Implications for Policy Makers and Regulators¹

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Introduction

The Republic of the Philippines is a developing country with an agricultural base, light industry, and service-sector economy. It had been listed in "Next Eleven" economies. The Philippines had one of the most vibrant Business Process Outsourcing (BPO) industries in Asia. The Philippines telecommunication market was competitive with several mobile cellular services, international gateway providers and at least two operators to provide fixed line in each region across the country. (<http://en.wikipedia.org/wiki/Philippines>, March 2007)

Mobile telecom services had been the drive of growth, as in other developing countries. Philippines had been among the early Asian countries to launch 3G services. The National Telecommunications Commission (NTC), the regulatory agency allocated 3G licenses in 2005.



Source: www.lonelyplanet.com, March 2007

¹ Funding support from ITU is gratefully acknowledged. The views expressed in this paper are the author's. A host of people made this study possible. The list is attached at the end of the case study. Special thanks to Ms Cheryll Soriano, Center for Policy and Executive Development, National College of Public Administration and Governance, University of the Philippines and Dr Erwin Alampay, Assistant Professor, National College of Public Administration, University of Philippines, Diliman who helped in the coordination of the study. Research support provided by Ms Sushma Mandi and Shikha Ojha, Indian Institute of Management, Ahmedabad is acknowledged.

3G Services in Philippines

In August 2005, the NTC issued the 3G guidelines for the operators. Nine companies - AZ Communications Networks, Inc. (AZCN), Bayan Telecommunications, Inc (BayanTel), Connectivity Unlimited Resources Enterprises Inc. (CURE), Digitel Mobile Philippines Inc. (Digitel), Globe Telecom Inc. (Globe), Multimedia Telephony Inc. (MTI), Next Mobile Inc. (Next Mobile), Pacific Wireless, Inc (Pacific) and Smart Communications Inc. (Smart) applied to the government for the same.

In the context of the debate over a suitable allocation mechanism, specifically auctions versus administrative allocation, NTC adopted an administrative mechanism to determine the capabilities of the operators for selection for the five available bands. This process assumes significance, especially in relation to the experience of a large number of European regulators and operators where operators bid so high in auctions for 3G that the viability of their operations was in jeopardy.

This paper details out the process adopted by NTC to allocate 3G licenses and the issues that arose as a consequence of it. This would have learning for policy makers and regulators.

Philippine Telecommunication Sector

The Philippines telecommunication sector is distinctive in a number of ways. First, it was among those countries of the world where telecommunication services had been historically provided by private operators. Second, there had been a focus on development that required mobile and international operators to install a specific number of fixed line. Third, as in many other under developed telecom sectors and developing countries, was the explosive growth of mobile, making it the first country where mobiles surpassed fixed lines. (www.itu.int/itudoc/gs/promo/bdt/cast_int/79479.html, March 2007)

Philippines' telecom infrastructure prior to reforms in 1993, as in many other Asian countries, was poor, characterized by very limited rural services and long waiting lists for service throughout the country. Philippine Long Distance Telephone Company (PLDT) was the dominant service provider. More than 60 telephone companies operated on a limited scale within towns and cities in the country. There were limited telephone lines in the entire country, and there were hundreds of municipalities with no telephone services at all. PLDT had failed to provide services in much of the countryside, minimizing its investments in growth and expansion of services. Smaller telecom operators, in primarily rural parts of the country, lacked the capital to expand their networks and services. With a view to accelerating the developments in the sector, the government passed the Public Telecommunications Act of 1995.

With greater competition, the rate of growth of mobiles accelerated dramatically and was 72.1% from 1998 to 2003. In a ranking of Asian countries, the Philippines was placed fourth in terms of the compounded annual growth rate in fixed line density (next to China, India, and Indonesia) and third in mobile phone density, next to India and Indonesia. (worldbank.org/INTEAPINFRASTRUCT/Resources/8550841137106254308/Philippines.pdf March 2007). Table 1 gives data on the subscribers per operator and Table 2 gives the structure of the subscribers per operator segment and their growth. Appendix 1 highlights the important service operators in the country.

The National Telecommunications Commission

The NTC was the government agency that has both regulatory and quasi-judicial functions. NTC took over from the Board of Communications and the Telecommunications Control Bureau which were brought to an end, in 1997. NTC was the sole body that exercises jurisdiction over the supervision, adjudication and control over all telecommunications services throughout the country.

Although independent, in so far as its regulatory and quasi-judicial functions were concerned, the NTC remained under the administrative supervision of the Department of Transportation and Communication as an attached agency. However, with respect to its quasi-judicial functions, NTC's decisions could be appealed to directly in the Supreme Court. Appendix 2 highlights the role, and functions of the NTC.

Table 1: Number of Telephone Subscribers per Operator (2005)

Operator	Lines		Market Share (%)	
	Installed	Subscribed	Installed	Subscribed
<i>BAYANTEL</i> *	443,910	227,057	6.79	6.74
<i>BELL TELECOM</i> *	12,710	1,942	0.19	0.06
<i>DIGITEL</i>	634,345	410,661	9.70	12.20
<i>ETPI/TTPI</i>	91,446	15,915	1.40	0.47
<i>INNOVE</i> *	1,507,197	329,908	23.05	9.80
<i>PHILCOM</i>	213,236	52,752	3.26	1.57
<i>PLDT</i>	236,561	46,202	3.62	1.37
<i>PILTEL</i>	2,926,515	2,043,816	44.76	60.70
<i>PT&T</i>	129,000	24,468	1.97	0.73
<i>Other LECS</i>	343,467	214,531	5.25	6.37
Total	6,538,387	3,367,252	100.00	100.00

Source: <http://www.ntc.gov.ph/consumer-frame.html>, March 2007

Note: * No report submitted for December 2005.

Table 2: Telecom Industry Structure

Services	2002	2003	2004	2005
<i>Local Exchange Carrier Services</i>	74	73	73	73
<i>Inter-Carrier Carrier Service</i>	14	14	14	14
<i>International Gateway Facility</i>	11	11	11	11
<i>Radio Mobile</i>				
<i>Public Trunk Repeater Service</i>	11	11	10	10
<i>Value Added Service</i>				
<i>With Networks</i>				
<i>Coastal</i>	12	13	18	18
<i>Broadband</i>	19	19	19	19
<i>Without Networks</i>	186	249	292	351

Source: <http://www.ntc.gov.ph/consumer-frame.html>, March 2007

Process of 3G License Allocation

Step 1: First Memorandum Circular (Internal Document NTC)

As part of the administrative process leading to the issuance of rules and regulations to govern the assignment of 3G licenses and frequencies, the NTC issued a draft Memorandum Circular (MC) on the subject in September 2004 and invited comments from all interested parties, particularly the telecommunications industry. NTC then conducted a public hearing on November 26, 2004². To improve “the process” and to address issues raised by several groups that it was premature at that juncture to allocate frequencies for 3G, NTC published Memorandum a Revised Draft Circulars and invited public comments.

Step 2: Memorandum and Revised Draft MC on the Allocation and Assignment of 3G Licenses and Radio Frequency Bands in June 2005.

The following is an edited excerpt from the document.

Is the Market Ready for 3G?

Subscribers and Revenue Base

NTC noted that the experiences of countries with existing 3G services had shown considerable consumer demand for services with the launching of 3G networks. Data about the launch of the 3G services in different countries is given in Appendix 3.

Costs of Handsets

With respect to the concerns regarding 3G handset cost, available data showed that there were more than 150 3G handsets launched and on the market. According to US analyst Forward Concepts, mobile handsets addressing newer high-bandwidth technologies would grow sharply in 2005. EDGE cellular phones would grow by 51% to 60 million. While CDMA cellular phones would grow by 165% to 45 million. With more than 25 3G device suppliers at present, growth was expected to be driven by competitive services, a wide variety of choice and maturing technology, which would ultimately drive the cost of 3G handsets lower and make 3G technologies more affordable and accessible.

Transmission Speeds

Lastly, the slow take up of service formats using the 2.5G and 2.75G technologies could be attributed to poor customer experience resulting from slow data transmission speed. Again, available data showed that with the advent of higher rates of data transmission made possible by the 3G technology, demand for 3G services had increased, thereby prompting 3G operators and content developers to keep pace. Data in a number of markets had shown increases in downloads and hence revenue. Appendix 4 highlights the same.

² At this time, NTC was still attached with the DOTC, it had felt the need to address the imbalance in the distribution of local exchange facilities and unsubscribed telephone lines following the implementation of making local exchange lines available.

NTC felt that under an appropriate regulatory framework for the encouragement of viable and efficient deployment, launch of 3G services could be made possible by the availability of technology necessary for mobile applications; the market demand would correspondingly increase to the benefit of the general public.

The Prior Operator Rule

“One of the contentions that are raised in the comments is that 3G is not a new service and may properly be classified as an enhancement of 2G mobile telecommunications technology. As 3G was a mere enhancement of 2G, it is contended that, should incumbent operators desire to construct and operate their own 3G networks, they should be allowed to simply apply for the assignment of frequencies as they have a prior legal right to the award of 3G licenses and frequencies as incumbent operators. It is likewise argued that the obligations imposed on existing Cellular Mobile Telecom Service (CMTS) operators, particularly the roll-out of at least 400,000 landlines for each CMTS operator, should likewise apply to prospective 3G operators.”

NTC clarified that it viewed 3G as enhancement and improvement of the 2G technology.

“A direct consequence of the categorization of 3G services as mere enhancements of the existing 2G technology would be the imposition on prospective 3G licensees of the same obligations, particularly the roll-out of at least 400,000 landlines for each CMTS operator. This finding did not necessarily mean that current CMTS operators have an exclusive right or are in the best position alone to be awarded with a license to provide, operate, and maintain 3G network services.”

Since 3G was treated as an enhancement of the current 2, 2.5 and 2.75 CMTS technologies, a 3G licensee was to be subjected to the rollout requirement. However, the obligation imposed on the prospective awardees of a 3G license were not be as onerous or costly as to effectively detract service providers from engaging in this field.

NTC also recognized its mandate of making telecom service accessible to unserved and underserved areas at affordable rates by efficient and effective use of spectrum by service providers to meet public demand. Consequently, NTC decided that the proposed allocation and award of 3G frequency bands would not be limited to existing CMTS franchise holders and licensees as envisioned by the incumbents nor could the prior operator rule be invoked to foreclose the participation of other telecommunications entities willing and sufficiently able to provide 3G services to the general public.

Principle of Technology Neutrality and Improved Frequency Management

“This assignment process precluded questions on technology neutrality as the 3G licensees are free to determine which type of platform (*i.e.*, WCDMA, CDMA 2000, or TDD) is to be used for the operation of their respective 3G networks”. The NTC felt that prospective 3G license awardees should be given the freedom to choose which 3G platform to use in the operation of their respective 3G networks, so long as the frequencies capable of supporting the chosen 3G platform were available for assignment.

Under the earlier draft MC, five bands were to be allocated for the use of prospective 3G licensees. NTC noted, however, that such a process could result in a situation whereby a particular assignee failed to utilize the allocated frequency due to various reasons, foremost of which may be the financial incapacity to launch and operate a network. While it may be argued that licensees that failed to utilize their assigned frequencies nevertheless pay spectrum user's fees, this proposition only led to inefficiency and waste in the utilization of what the law terms as a scarce public resource.

In order to ensure that spectrum that was allocated was actually used (and not hoarded), a spectrum users fee had been specified in the first consultation paper: in order to strengthen the motivation for using the spectrum, the proposal was enhanced to include the assessment of the initiative of operators to launch the network and thereafter apply for the privilege of using the same. Moreover, the assignment of 3G frequencies would depend on a 3G licensee's network requirements and capacity for expansion, thereby greatly reducing, if not entirely eliminating, the recurrence of the non-use of frequencies.

Under the revised draft MC, NTC clarified that it was mandated to hold open tenders only where two or more 3G licensees desired to use a particular frequency for their respective 3G networks, and there was only frequency available to support the platform chosen by both licensees.

It also came out with a MC specifying the detailed rules and regulations of allocation and assignment of 3G radio frequency bands also dated June 10, 2005. There were a number of concerns regarding the proposed licensed conditions. To address these concerns; NTC came out with the revised MC dated August 7, 2005 on the allocation and assignment of 3G licenses and radio frequency bands. The key issues that were specified in this revised circular are shown in Appendix 5. NTC published the revised memorandum circular detailing the rules and regulations for allocation and assignment of 3G radio frequency bands on August 7, 2005

Step 3: Rules and Regulations on the Allocation and Assignment of 3G Radio Frequency Bands in its MC dated August 7, 2005.

NTC ruled out an open tender for frequencies since these were to be granted to the best qualified service provider taking into account the latter's proposal to utilize the spectrum efficiently and effectively meet public demand. The NTC framework provided for bidding where the demand for specific frequencies exceeded availability. "Instances where, following the screening of the applicants to determine which among them is the most qualified, there is a) a deadlock between two or more applicants in terms of qualification, and b) the number of applicants exceed the number of frequencies"

Fee Structure

During the public consultation on the draft MC, legality of collecting upfront payments as well as the establishment of minimum bid prices was discussed.

Taking into consideration the need to ensure that prospective licensees immediately constructed and operated their respective networks, NTC believed that imposing upfront payments and minimum bid prices in the assignment of frequencies, at this time, would pose an additional burden which would severely tax the financial resources of the

licensees even before they could commence operations. Such a burden would be passed on to the consumers in the form of increased prices and higher rates.

Allocation of Frequencies

Under the attached revised draft rules, bandwidths were to be allocated and assigned depending on the prospective licensees' need for frequencies. The fee structure proposed under the revised draft rules was meant to complement this policy. Thus, fees were to be imposed on a graduated scale based on the number of frequency bandwidths which were to be applied for and used by the 3G licensees.

The allocation of radio frequency band, criteria, determination of qualified applicant, performance bond, spectrum user fees, obligations of the assignees, and process of selection of operators would remain the same as in the earlier draft; the payable fee structure was changed.

Identified Bands

NTC identified the following frequency bands for 3G

825 – 845MHz*
870 – 890MHz*
1880 – 1900MHz
1920 – 1980MHz
2110 – 2170MHz
2010 - 2025MHz

(*These frequencies were currently assigned to existing CMTS operators)

Criteria to be Used in the Selection of Qualified Public Telecommunications Entities

In order to be selected as a qualified applicant for consideration of ranking, the applicants needed to satisfy the following conditions:

1. Be a holder of a valid Congressional franchises that included authorizations to install, operate, and maintain CMTS or 3G.
2. Existing authorized CMTS providers opting to upgrade their networks to 3G.
3. An entity intending to operate a 3G mobile telecommunications system would have to file its application to NTC or acquire a Certificate of Public Convenience and Necessity (CPCN) to install, operate and maintain a 3G mobile telecommunications system to NTC not later than 30 days from the date of issue of MC dated August 7, 2005.
4. Entities with applications for the assignment of the 3G radio frequency bands could form a consortium. The details of the consortium including the details of their ownership and control structure needed to be submitted for evaluation.

5. For new public telecommunications entities, the minimum paid-up capital stock should be Philippine peso (Php) 100 million.
6. For existing duly authorized PTEs, debt to equity ratio should be 70:30 with total investments in the CMTS or 3G networks of at least Php 400 million already included in the calculation of the debt to equity ratio.
7. Entities needed to provide proof of their technical capability to install, operate and maintain the proposed CMTS or 3G networks.
8. Existing authorized PTEs had to provide proof that they had no outstanding unpaid supervision and regulations fees (SRF), spectrum user fees (SUF), radio station license fees, permit fees and other fees imposed by the NTC.

In addition, applicants were required to provide a written undertaking to:

- Interconnect with all 3G networks, CMTS operators, local exchange networks and all other public networks pursuant to existing laws, rules and regulations on mandatory interconnection.
- Allow the sharing of their network and facilities with other 3G players in areas where demand did not allow more than one 3G network.
- Negotiate roaming agreements with other 3G networks or existing duly authorized CMTS operators.
- Abide by the terms and conditions set by NTC in cases where its negotiations for interconnection, sharing of networks and facilities and/or roaming fail to reach agreements within 90 days from date of the start of negotiations for the same.
- Post bond equivalent to Php 300 million

Applicants for the assignment of the 3G radio frequency bands would be ranked based on the track record, roll-out commitments and rates to be charged from the consumers.

Spectrum Users Fees

The annual spectrum user fees (SUF) for the allocated and assigned 3G radio frequency bands was set out as specified in Table 3.

Table 3: SUF Charges

Amount of Spectrum (MHz)	Amount (per MHz) (Php in million)	
	Paired Radio Frequency Band	Unpaired Radio Frequency Band
First 5 MHz	5	3
Additional 1 MHz but not exceeding total 10 MHz	8	6
Additional 1 MHz but not exceeding total 15 MHz	10	8
Additional 1 MHz in excess of 15 MHz	15	12

An additional SUF of Php 2 million would be imposed on each authorized 3G network operator for every 100,000 additional subscribers in excess of the first 4 million.

Existing CMTS providers opting to upgrade their networks to 3G using their existing assigned radio frequencies, and qualified to do so, would pay annual SUF of Php 65 million for the first 10MHz x 2 radio frequency band plus Php 8 million for each additional 1MHz x 2 of radio frequency in excess of the first 10MHz x 2.

An additional SUF of Php 2 million would also be imposed for every 100,000 additional subscribers in excess of the first 4 million.

The application would undergo quasi-judicial process which would be completed within 60 days (from the date of the MC dated August 7, 2005). The criteria for evaluation would be based on:

- a. Proof of track record in the operation of mobile telecommunications systems particularly 3G networks.
- b. A 5 year roll-out plan to cover at least 80% of the provincial capital towns/cities and 80% of the chartered cities.
- c. Schedule of rates for the different types of 3G services to be offered. The schedule of rates would be the maximum rates that could be charged within the first 24 months from start of commercial operations which should not be later than 30 months from date of award of the 3G radio frequency bands. Other 3G services not included in the submitted list could be offered subject to prior approval by NTC

Assessment Basis

The ranking would be determined using a 10-point scoring system for each of the prescribed criteria. Ten points would be given to the company with the best proposal and 0 points for the company that failed to comply with the prescribed criteria. The evaluation scheme for the criteria was as follows:

Criterion 1

Criterion 1 consisted of two sub criterion as listed below:

Sub Criterion a

Must submit proof of track record in the operation of mobile telecommunications systems particularly 3G networks (3.6f of MC No. August 7, 2005).

Track record was used as a criterion not only to ensure that the applicant once selected would be able to install the proposed 3G network but also to ensure that the applicant would be able to operate and maintain the same. Hence, the points to be given to applicants with previous authorization would be based on their compliance with the terms and conditions of their prior authorizations, particularly on the installation of their previously authorized networks.

Applicants with existing mobile telecommunications system authorization and that had fully complied with their commitments in terms of number of existing and operational cell sites or mobile base stations sites would get 7.0 points.

Applicants with existing mobile telecommunications system authorization who had satisfactorily complied with their commitments in terms of number of existing and operational cell sites or mobile base stations sites would get 6.0 points.

Zero point would be given to applicants that had failed to install cell sites or mobile base station sites or had not installed sufficient number of cell sites or mobile base station sites based on their approved roll-out plans.

Applicants with authorizations to install, operate and maintain networks other than cellular mobile telecommunications networks would be rated on the basis of their compliance with their respective authorizations. Applicants that had fully complied with their respective authorizations would be given 5.0 points, while applicants that had satisfactorily complied with their respective authorizations would be given 4.0 points. Zero point would be given to applicants that had not installed any equipment.

New company-applicants who had sufficiently demonstrated their ability to meet the criteria as set out in Sec. 3.3 of MC No. August 7, 2005 would be given 4.0 points.

Sub Criterion b

Experience with 3G

An additional 3.0 points would be given to applicants who had foreign company-partners that were operating 3G networks.

Applicants who had no foreign company-partners operating 3G networks but had commitments from 3G equipment vendor/ suppliers for the supply and installation of 3G networks on turnkey basis would be given 1.5 points.

Zero point would be given to applicants with no foreign company-partner 3G-network operator and with no commitments on turnkey basis from 3G equipment vendor/ supplier for the supply and installation of 3G networks.

Criterion 2

Must submit a 5 year rollout plan to cover at least 80% of the provincial cities/municipalities and 80% of chartered cities networks (3.6g of MC No. August 7, 2005).

Applicants who submitted rollout plans covering only the minimum required coverage of 80% of provincial capital cities and municipalities and 80% of chartered cities would be given 7.0 points.

Applicants who submitted roll-out plans over and above the minimum required coverage of 80% of provincial capital cities and municipalities and 80% of chartered cities would be given a maximum of 10.0 points and a minimum of 8.0 points, depending on the number of cities and municipalities to be covered by the roll-out plans submitted.

Applicants who submitted roll-out plans that did not meet the minimum coverage but had made a commitment to cover the minimum required coverage within the prescribed period of 5 years would be given a maximum of 5.0 points and a

minimum of 1.0 point, depending on the number of areas covered by the roll-out plans submitted;

Zero point would be given to applicants who submitted roll-out plans that failed to comply with the minimum required coverage and had not submitted any commitment to comply with the minimum required coverage within the prescribed period.

Criterion 3

Must submit schedule of rates for the different types of 3G services to be offered. The schedule of rates shall be the maximum rates that can be charged within the first 24 months from start of commercial operations networks (3.6h of MC No. August 7, 2005)

Retail rates of 3G services directly affected or benefited the consumers. In a fully competitive environment, retail prices tend to converge to the lowest retail prices in the market. Being market-driven, it was expected that retail prices of all 3G operators would converge to the retail prices of 3G operators with the lowest retail prices. Therefore, 10.0 points would be given to applicants who could submitted rate proposals deemed beneficial to consumers.

The maximum total points that could be garnered for the foregoing criteria were 30.0. To be considered best qualified, an applicant needed to be compliant with the requirements/undertakings specified and detailed in sections 3.6 a, b, c, d and e of MC No. August 7, 2005 (Appendix 5) and must have got at least 2/3 of the maximum total points or 20.0 points (3.6 f, g, and h of MC No. August 7, 2005).

NTC rationalized that, “in the exercise of its discretion, and consistent with the dictates of the law that it grants authorization only to those that could satisfactorily comply with the terms and conditions set for such authorizations, deems it appropriate that a qualified 3G applicant must garner at least 2/3 of the total number of points to be allocated in the selection process.”

Since NTC treated 3G as further enhancement 2G and its upgrades, authorized CMTS service providers were automatically qualified as applicants for the assignment. Any PTE had to first comply with the Circular’s requirements of attaining the status of a CMTS service provider before being further qualified for consideration as a 3G service provider.

Entities other than those considered as existing CMTS providers were deemed new entrants. They would be required to file an application for a provisional authority or a certificate of CPCN and the same would qualify as an applicant for the issuance of a 3G frequency.

Of the companies that applied, BayanTel, Digetel, MTI, Globe and Smart were considered as existing CMTS providers. AZNC, Next Mobile were considered as existing PTE and CURE was a new entrant.

Step 4: Evaluation of Applicants

NTC came out with a Consolidated Order dated December 29, 2005 that provided the evaluation of all applicants.

a) Review of Applications

In the review of applications, NTC realized that MTI had filed an application for a CPCN to install, operate and maintain a Universal Mobile Telecommunications System (UMTS or 3G) as early as June 8, 2000 and had submitted its formal offer of evidence as early as

November 9, 2003. This was despite the fact that, as of that time, NTC had yet to come out with the Circular that would allocate the 3G frequencies. However, it had been granted a provisional authority to install, operate and maintain a nationwide public mobile telephone service and to charge rates only last October 12, 2005 at the time when the Circular for 3G applications was already in effect. NTC ruled that MTI had to submit to the same process if it is, as of the present time, a duly authorized CMTS provider.

MTI was qualified as an existing CMTS provider since it had allocation of CMTS frequencies in the 1800 MHz bandwidth for service provision called as Personal Communication Network.

b) Evaluation Process

The evaluation process consisted of the applicants submitting their application, receiving public comments on the applications, hearing the response of the applicant to the comments, and NTC's decision on evaluation taking into account the various points raised in the process above.

Individual Applicant Evaluation

i) AZ Communications Networks, Inc. (AZCN)

The public comments against AZCN were as follows:

1. AZCN was only enfranchised to provide services and equipments to private entities only and this did not qualify it as PTE.
2. No evidence had been provided to show that AZCN had no outstanding and/or unpaid SRF.
3. The application was not financially feasible nor was the applicant financially capable of undertaking the proposed project considering that it had a net operating loss amounting to Php 30 million in 2004 and Php 168 million in 2003. Given the applicant's precarious financial position, and the fact that it would depend on supplier's credit from Lucent Technologies, it was highly doubtful that applicant could implement its roll out plan.
4. The transfer of the controlling interest in the applicant has not been approved by the Congress as required by its franchise.
5. The application was not technically feasible. The applicant would be unable to build up its network to implement its roll out plan in the absence of funding to support the undertaking.
6. The applicant had no track record of CMTS provision.

AZCN's Response

1. NTC had empowered AZCN to provide services to the general public. AZCN maintained that the track record contemplated under MC No. August 7, 2005 included the track record of its key personnel with relevant experience in the CMTS industry.
2. With respect to the issue of its financial capability, applicant argued that its shareholders would increase the paid-up capital once it was granted the CPCN or provisional authority applied for.

3. Lucent Technologies has agreed to provide products and services necessary to rollout and operate AZCN CDMA 2000 network. Lucent had indicated that third party financiers and foreign operators were interested in investing in its proposed service.
4. AZCN maintained that its financial position was as per the eligibility requirements. There were concerns regarding the response given by AZCN especially on the financial capability. There was no proof that the applicant's debt to equity ratio and its ability to provide the necessary financing for maintaining the roll-out targets could be met.

NTC's Decision

The NTC ruled that based on its franchise, AZCN was duly authorized to operate throughout the Philippines. Based on the technical evaluation, the applicant was qualified. However, the NTC found that the applicant's rollout plan fell short of the required minimum coverage of 80% of provincial capital cities/ municipalities and 80% of the chartered cities. Appendix 6 highlights the five year roll out plan, the proposed nationwide network coverage along with the total number of cities and municipalities.

Moreover, while AZCN was legally qualified and the proposed 3G project was technically feasible, AZCN did not have the financial capability to undertake 3G operations and to raise the Php 400 million initial paid stockholder's equity. This was a mandatory requirement and thus application of the AZCN for 3G services was denied.

ii) Connectivity Unlimited Resource Enterprise, Inc., (CURE)

CURE was not an existing service provider. It asserted that it would position itself as a 'pure' 3G operator from launch.

Public concerns regarding CURE were as follows:

1. CURE's lack of financial and managerial capability for 3G, the absence of NTC's frequency allocation and lack of public demand for 3G would cause problems. CURE was not financially capable because its equity (authorized capital Php 1.2 million, and paid-up of Php 7.5 million) was insufficient for a needed \$1 billion 3G rollout nationwide. CURE would face significant challenges to develop real revenue streams from 3G services from exorbitant costs of licenses that had already placed many firms in extreme debt, and from the decline in voice revenues and over-hyped publicity already surrounding wireless Internet, as had been the experience of mobile operators worldwide.
2. CURE did not have the technical capability, managerial and operational experience, and adequate and qualified personnel complement to use a modern and complicated technology in order to provide the so-called killer applications.

CURE's Response

CURE submitted documents and modified its application to conform to the financial requirement.

NTC's Decision

Based on the technical documents, the proposed 3G network appeared to be technically feasible. Although CURE's roll out plan failed to comply with the 80% coverage requirement under the 3G rules and regulations (Appendix 7), in a subsequent application, the applicant committed to cover 95% of the provincial cities and municipalities and 90% of chartered cities. Subsequently, the applicant had also complied with the minimum required paid up capital for new companies.

On these conditions, CURE's application for a CPCN was granted provisional authority to install, operate and maintain a mobile telecommunications system.

iii) Next Mobile, Inc.

The public concerns regarding *Next Mobile* were as follows:

1. Since several carriers were operating CMTS, there was cramped competition of CMTS subscribers among existing operators. The operation by *Next Mobile* of the proposed service constituted a wasteful duplication of existing telecommunications service.
2. The applicant had not proven its technical and financial capacity to carry out its undertaking.
3. The applicant had a sorry track record as a telecommunications company with only 36,000 subscribers and 139 base stations.
4. Its operations had been plagued by the withdrawal of its foreign partner, violation of several laws, cash flow problems, and lack of experience in CMTS and/or 3G technology.
5. Given its dire financial and operational conditions, the applicant would not be able to meet the prescribed funding requirement. It had a deficit amounting to Php11.5 billion as of December 31, 2004 and was therefore not capable of embarking and sustaining 3G.
6. Applicant's franchise limited its authority to provide radio communication services and equipment to private entities only and not to the general public.

NTC's Decision

1. NTC ruled that *Next Mobile* was authorized to provide telecommunications services and had the "legal personality" to apply for a license based on the legislative franchise and by its Amended Articles of Incorporation on file with the Securities and Exchange Commission which expressly stated that the main purposes for which the corporation was formed included all telecom services.
2. Evaluation of the Technical Proposal

On the technical side, *Next Mobile* had:

- a. Existing system that were classified as 2.5 G technology as it is capable of producing mobile data services at speeds comparable to GSM (GPRS).

- b. A network of 139 base stations covering Metro Manila and Southern Luzon from Pampanga to Batangas as well as Baguio.
- c. Increased its cell sites beginning with Cebu and Davao.

Based on the technical documents submitted by *Next Mobile*, the proposed 3G network appeared to be technically feasible. *Next Mobile* committed to cover 90% of the provincial capital towns/cities and 85% of chartered cities with initial coverage to be achieved through the deployment of 355 cell sites in 135 areas. The applicant was found to be financially viable. In view of the foregoing, NMI was considered for allocation of 3G license.

iv) *Pacific Wireless, Inc.*,

Public concerns regarding Pacific were:

1. Pacific's financial capability to undertake the proposed project on the grounds that it had only projected assets of Php 34.92 billion whereas the total network and non-network capitalization requirement for the project as testified to by Pacific financial witness was Php 37.57 billion. The word "projected" implied that the applicant had no actual assets of the amount indicated. Pacific did not prove the technical feasibility of the application as it failed to provide for Visayas and Mindanao, traffic forecast for data, and, coverage map and plot.
2. Pacific legal personality was in doubt since the corporate entities holding almost 99% of the capital stock of Pacific were non-existent or not owned by Filipinos. *Pacific* failed to supply sufficient documentary proofs that could guide NTC in properly inquiring into whether or not Pacific shareholding was in compliance with the nationality requirement in accordance with Constitution.
3. The capital infusion of stockholders was predicated upon the applicant's acquisition of a license from the NTC. By itself, Pacific was not technically capable of undertaking the project.
4. The 1995 Household population data utilized by Pacific as base figures for its market projections were antiquated figures resulting in an inaccurate demographic base for *Pacific* market niche.

NTC's Decision

Based on the technical documents, the proposed 3G network appeared to be technically feasible and its roll-out plan covering 90% of the cities and 80% of the municipalities within the five year roll-out period was in compliance with the minimum requirements.

In the absence of adequate proof, Pacific's shareholding was deemed to be in compliance with the nationality requirement of the Constitution.

While the technical evaluation showed that the proposed network of Pacific was legally qualified and the proposed 3G project was technically feasible, it had failed to comply with the financial capability requirement (Sec. 3.3c of MC No. August 7, 2005). As a duly licensed PTE, Pacific was expected to have built up

the financial capability to undertake 3G operations and to raise the Php 400 million initial paid stockholders' equity.

On legal and financial grounds, Pacific application for a CPCN to construct, establish, install, operate and maintain a nationwide 3G mobile telecommunications system was denied.

c) Ranking Criteria

Based on the foregoing, the applicants for a 3G authorization were evaluated as follows:

i) Bayantel Telecom, Inc.,

BayanTel had no unpaid fees and has submitted the required undertakings for interconnection, network and facilities sharing, roaming and submission to Commission's intervention (interconnection).

1. Bayantel was given a total of 1.5 points for track record since:
 - i. It was non-compliant with its commitments under its previous authority as it had an existing CMTS authorization but had failed to put up an operational network, for which reason it was given 0 point.
 - ii. It had submitted a supply and engineering turnkey agreement with a 3G equipment supplier, ZTE Corp., for which it was given 1.5 points.
2. It was given 7.0 points for its roll-out plan, which proposed to cover 82% of provincial capital cities/ municipalities and 87% of chartered cities.
3. It was given 10.0 points for its proposed service rates.

Thus, Bayantel got a total of 18.5 points.

ii) Communication Unlimited Resources Enterprise, Inc.

Being a new public telecommunications entity, CURE had no unpaid fees. It had submitted the required undertakings for interconnection, network and facilities sharing, roaming and submission to Commission's intervention (interconnection).

1. It was given 4.0 points as a new public telecommunications entity that had sufficiently demonstrated its ability to meet the financial criteria as set out in Sec. 3.3 of MC No. August 7, 2005.
2. It had a turnkey agreement with 3G equipment suppliers, Nokia, Alcatel and Nortel, for the supply and installation of its proposed 3G network, for which it was given 1.5 points.
3. It was given 5.0 points for its rollout plan. The initial CURE roll-out plan did not meet the minimum coverage of at least 80% of the provincial capital cities/municipalities and 80% of chartered cities, as the same was submitted prior to the promulgation of MC August 7, 2005, but the company subsequently submitted a written commitment dated October 27, 2005 to cover 95% of the provincial capital cities and municipalities and 90% of the chartered cities within 48 months from date of assignment of 3G allocated frequencies.
4. It was given 10.0 points for its proposed service rates.

Thus, CURE got a total of 20.0 points.

iii) Digitel Mobile Philippines, Inc

Digitel had no unpaid fees and had submitted the required undertakings for interconnection, network and facilities sharing, roaming and submission to Commission's intervention (interconnection).

1. It was given a total of 9.0 points for track record since:
 - i. It was an existing CMTS provider which had satisfactorily complied with its commitments under its previous authority for which it was given 6.0 points.
 - ii. It had submitted a joint venture agreement with a foreign company 3G operator, TELIA of Sweden, for which it was given 3.0 points.
2. It was given 8.0 points for its roll-out plan, which proposed to cover 90% of provincial capital cities/ municipalities and 100% of chartered cities.
3. It was given 10.0 points for its proposed service rates.

Thus, Digitel got a total of 27.0 points.

iv) Globe Telecom Inc.,

Globe had no unpaid fees and had submitted the required undertakings for interconnection, network and facilities sharing, roaming and submission to Commission's intervention (interconnection).

1. It was given 10.0 points for track record since:
 - i. It was an existing CMTS provider which had fully complied with its commitments under its previous authority, for which it was given 7.0 points.
 - ii. It has submitted a joint venture agreement with a foreign company 3G operator, Singtel, which was a major shareholder in the company, for which it was given 3.0 points.
2. It was given 8.0 points for its roll-out plan, which proposed to cover 80% of provincial capital cities/ municipalities and 95% of chartered cities.
3. It was given 10.0 points for its proposed service rates.

Thus, Globe got a total of 28.0 points.

v) Multimedia Telephony Inc.,

It had no unpaid fees and has submitted the required undertakings for interconnection, network and facilities sharing, roaming and submission to Commission's intervention (interconnection).

1. It was given 5.5 points for track record since:
 - i. It was a non-CMTS public telecommunications entity which had satisfactorily complied with its commitments under its previous authority, for which it was given 4.0 points.

- ii. It had a turnkey supply and installation agreement with 3G equipment suppliers NEC, Nera and Nokia, for which it was given 1.5 points.
2. It was given 3.0 points for its rollout plan. The MTI rollout plan envisioned 2% coverage within two years but the company had made a commitment to meet the minimum required coverage within the prescribed period of 5 years.
3. It was given 10.0 points for its proposed service rates.

Thus, MTI got a total of 18.5 points.

vi) *Next Mobile Inc,*

On a subsequent assessment of 2004 audited financial statement of Next Mobile, NTC found that its submission was inconsistent with the figures appearing in the annual reports for 2003 and 2004, previously submitted by Next Mobile to the NTC.

Next Mobile had unpaid SRF amounting to Php 126 million and unpaid SUF amounting to Php 9 million as of December 2005. Therefore, for purposes of its application for assignment of 3G frequency, Next Mobile was non-compliant with the requirement under Sec. 3.6a of MC No. August 7, 2005.

Even if Next Mobile was to be accorded a 1-2 month restructured payment scheme consistent with present practice, the NTC noted that the staggered payment of SRF and SUF meant that Next Mobile would not be able to apply for assignment of 3G frequencies. In view of the foregoing, the NTC found that Next Mobile was not qualified for the allocation of 3G frequency and would no longer be considered for purposes of ranking the best-qualified applicants.

Smart Communications Inc.,

Smart had no unpaid fees and had submitted the required undertakings for interconnection, network and facilities sharing, roaming and submission to Commission's intervention (interconnection).

1. It was given 10.0 points for track record since
 - i. It was an existing CMTS provider which had fully complied with its commitments under its previous authority, for which reason it was given 7.0 points.
 - ii. It had submitted a joint venture agreement with a foreign company 3G operator, NTT DoCoMo, for which it had got 3.0 points.
2. It was given 10.0 points for its roll-out plan which proposes to cover 100% of provincial capital cities/ municipalities, 82% of chartered cities and 1,482 additional cities and municipalities (92%).
3. It was given 10.0 points for its proposed service rates.

Thus, Smart got a total of 30.0 points.

Table 4 gives the ranking by NTC and the list of qualified and non-qualified bidders.

Table 4: Ranking by NTC

Criteria	Bayantel	Digitel	Globe	Smart	CURE	MTI
1. Track Record	1.5	9.0	10.0	10.0	5.5	5.5
2. Roll-out Plan	7.0	9.0	9.0	10.0	5.0	3.0
3. Service Rates	10.0	10.0	10.0	10.0	10.0	10.0
Total	18.5	28.0	29.0	30.0	20.5	18.5
Remarks	Not qualified Did not meet the minimum required points.	Rank 3	Rank 2	Rank 1	Rank 4	Not qualified Did not meet the minimum required points.

Based on this assessment, CURE, Digitel, Globe, and Smart were found as qualified for 3G licenses as they all had secured more than 20 marks. Thus, while five bands were available, only four bidders qualified and awarded licenses.

Subsequent Developments

Motion of Consideration

Subsequent to the award of licenses, BayanTel made the following motion for reconsideration (Source: Internal Company Documents)*

1. “Bayantel is entitled to at least 5 points for track record because of its compliance with the terms and conditions of its previous authorizations as well as its proven capability of building, operating and maintaining a massive network infrastructure that is 3G compliant.
2. Bayantel’s track record should be evaluated based on its ability to freely comply with the terms and conditions of its previous authorizations and not based on those where it was legally prevented from complying with its obligations.

An injunction issued by the Court of Appeals which was lifted with finality by the Supreme Court on August 5, 2002, prevented it from fulfilling its requirement. Subsequently, its creditors filed a Petition for the Corporate Rehabilitation of Bayantel.”

3. Bayantel wanted NTC to consider the roll-out of its WLL CDMA network as proof of its capability to use the 3G spectrum efficiently and effectively under new and cost effective technologies. It also claimed to be the first telecommunication company that was able to comply with its roll-out obligations under the Service Area Scheme (SAS).
4. Bayantel was entitled to an additional 1.0 point for submitting a roll-out plan that was over and above the required minimum coverage”.

* Excerpted from internal company documents.

Details of the submission made by Bayantel are given in Appendix 8.

Review by the Joint House Panel of the Congress

Subsequent to the award of licenses, there were demands by the Joint House Panel of the Congress overseeing state information-technology policies requesting the NTC to nullify the 3G licenses.

This was because as per their interpretation, the law required public bidding where demand for specific radio frequency exceeded availability. The NTC had awarded the 3G concessions without conducting an open tender or auction which was a clear violation of law. As a consequence, the government had also lost Php 15-25 billion.

The panel claimed that Globe, Smart, Digitel, and CURE acquired licenses from the NTC free of charge because the agency said it did not have the power to impose taxes. On the other hand, the government stood to earn only approximately Php 700 million a year from the combined “frequency users fees” it would charge the three leading telecom firms in the country.

The Joint House Panel suggested that the NTC could have collected “franchise fees”, not taxes, instead of giving away the licenses for free. The companies operating 3G also stood to gain but way of tax breaks, duty free import of equipment.

However, the operators had a different view. “If auction had been pushed through, supposing already that applicants were willing to bet on an already exorbitant and unrealistic tripling of the minimum bid at Php 1.2 million for each band, than total proceeds could only run to Php 6.5 billion. Then the Php 15-25 billion windfall suggested by some members of Congress in several and memoranda is purely speculative and without solid substantiation”, Globe said

The NTC had ordered the telcos concerned - Globe, Smart, Digitel, and CURE to submit their comments to the Congressional Resolution within 10 days from receipt of the order. Due to the political situation in Philippines, in which general elections are expected in May 2007, the NTC and policy makers were awaiting the political outcomes before finally deciding on the response regarding the choice of process (beauty contests versus bidding).

Analysis

- The visibility of the telecom sector and the prior experience of 3G licensing in Europe and UK have shaped the perspectives of regulators and policy makers in identifying appropriate mechanisms for allocation. Since European bids through auctions had gone extremely high, most regulators in Asian countries were wary of an auction mechanism. Similar views had been expressed in India and Sri Lanka.

However, this perspective needs to be analyzed as traditionally auctions are considered as the best mechanism to allocate scarce resources to entities that value it most. In a pure administrative mechanism as adopted by NTC, the price per MHz was fixed before the applications were sought. Since these were not determined by any market mechanism, there were contentions regarding the level of price.

Post 2000, some analysts have linked the problems with the European telecom firms to the high prices paid by them in 3G licenses. This has been sometimes interpreted to indicate that auctions are an inappropriate mechanism to allocate spectrum as bidders bid so high so as to make their operations unviable. However, this is not the right perspective. Bidders had voluntarily bid high and if their operations were subsequently hurt, it was a bad business decision, for which they need to “pay”. Operators had the option of choosing the level of bids, investing in alternative business, or opting out of bids to possibly buy the winners later.

Poor performance in the telecom sector was not limited just to companies that had “overbid”, but was spread across companies in the US and those that had not bid.

In developing countries, it is considered that possibly high auctions prices will lead to higher consumer prices and hence lower penetration. However, given enough competition and falling prices of technology will ensure that prices will come down, as had happened in India. Thus, governments need not be wary of this mechanism and choose less efficient methods of allocation.

- While auctions work best at allocating resources most efficiently to those who value it most, operational difficulties (awarding licenses to those who may not be technically competent and then stay away from roll out) has made regulators in Asian countries averse to auctions. However, from the point of view of the best way to allocate scarce public resources to private entities, auctions are appropriate. Auction design requires a great deal of thought and detailed design for them to be successful. Simultaneous Multiple Round auctions in the PCS band (A, B, D, E bands) designed by the FCC in the USA were considered successful. Operators do not usually opt for auctions as they feel they will have to pay a price that will reduce their profits; regulators need to take a view on the allocation mechanism.
- While incumbents in many Asian countries have argued that 3G services were extensions of 2G, only existing operators should be given 3G licenses. NTC maintained that while it considered 3G to be an extension of 2G, its mandate of promoting competition, gave it scope to introduce new players. This decision made the entry more competitive.
- The process adopted by NTC was efficient, as licenses were awarded within the specified time frame. There had been no legal review and operators had started working on the roll out plans. However, there was a long prior period, where operators were reluctant to consider offering 3G services.
- Since the process to be adopted for allocation did not undergo a review, there were concerns raised subsequently. While it does not seem likely that the allotted licenses will be revoked, the review by the Joint House Panel had created uncertainty in the sector. The NTC had taken the view that bidding would need to be resorted to only if there was more than one contender for *the same frequency band*. This is a contentious interpretation as there were nine bidders for five bands.

The Philippines “beauty contest” could have been more transparent if the NTC had also chosen license amounts as bid criteria. In the current model, the evaluation process could be considered as subjective, especially when the evaluation scores are combined across different criteria.

- While the criteria for evaluation was publicly discussed through the various circulars, the assessment criteria was disclosed only in the Consolidated Decision. Further, the cut off requirement of having to score at least 20 points out of a total of 30 was evolved by the NTC at the time of assessment of bidders. The NTC justified this as the discretion it rightly had.

In a similar bidding process, that was adopted for private involvement in modernization of airports in India, the Request for Proposal (RFP) clearly stated that for the bidders to qualify they had to score at least 80 marks on each dimension of Management and Technical Capability. The RFP also stated the total marks for each dimension, which was not the case in the NTC assessment. More elaboration from the NTC would have led to clearer outcomes. The Motion for Reconsideration filed by Bayantel subsequent to the Consolidated Order highlights the uncertainty that could arise due to such non-transparency.

- The adoption of a process by which the operators could choose the frequency band from amongst the available bands, gave freedom to the operators to choose the technologies. This allowed for technology neutrality in the allocation process.
- The evaluation criteria on rates to be charged was not discriminating enough, as all applicants got a maximum score of 10.0 points. While designing evaluation criteria, it is important to arrive at a set of attributes that is powerful enough to discriminate among the contestants, as well as be parsimonious.

Conclusions

The commercial potential of wireless applications has brought spectrum policies to the forefront of regulatory arena. The case study highlights the influence of global developments (European 3G auctions) on domestic spectrum allocation processes.

Policy makers need to understand that it is important to incorporate economic principles in spectrum allocation design. NTC chose a more conservative and economically less efficient approach by adopting beauty contest. Evaluation criteria needs to be very carefully designed and communicated to the bidders prior to the event. Although an open consultative approach in the early stages may appear to delay the process, in the long run, it leads to more transparent and robust solutions.

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Appendix 1: Major Telecom Operators in Philippines (Excepted from the website of the operators)

Bayantel Telecommunications (www.byantel.com.ph)

Bayantel Holdings Corporation was incorporated in October 15, 1993. The service areas of the company included Metro Manila and Bicol and local exchange service areas in the Visayas and Mindanao regions combined cover a population of over 25 million, nearly 33% of the population of the Philippines

Bayantel was 85.4% owned by the Lopez Group and Benpres, a publicly-listed holding company owning the Lopez Group's investments in communications, power, infrastructure and real estate, among others. The other main shareholder is the AIF.

BayanTel recently reported continued growth from its business in the first quarter of 2005 after reporting a significant growth in overall performance in 2004. Net revenues were 7% higher at Php1.4 billion compared to Php1.3 billion last year. EBITDA was Php 592 million, representing a 15% growth from the Php 514 million posted during the same period in 2004.

Digitel Telecommunications Phils. Inc. (www.digitel.ph)

Established in 1987, Digitel Telecommunications Phils. Inc. was majority-owned by JG Summit Holdings Inc., one of the largest and most diversified conglomerates in the Philippines. Digitel was the second largest provider of fixed line and the third largest mobile operator company in the country.

In 2004, BayanTel reported a 58% growth in EBITDA at Php 2.23 billion compared to Php 1.43 billion in 2003. Net revenues also grew by 8% at Php 5.46 billion in 2004 compared to about Php 5 billion in the previous year.

Globe Telecom (www.globe.com.ph)

Globe had a long history of connect the people through the strong links of communication throughout the country and the world. Globe Telecom descended directly from Dollaradio, a ship-to-shore radio and telegraph company in the 1920s which was later renamed Globe Wireless Limited (GWL).

Net service revenue of the company has increased from Php 52,741 million in 2004 to Php 54, 897 million within a year. For the same period, EBITDA has declined from Php 32,895 million to Php 31, 972 million.

Philippine Long Distance Telephone Company (PLDT) (www.pldt.com.ph)

Founded on November 28, 1928, PLDT was the leading telecommunications provider in the PLDT offered fixed line, wireless, and information and communication technology, through extensive fiber optic backbone and fixed line, cellular and satellite networks.

For the financial year 2006, company showed the EBITD of Php 79.6 billion (up by 3% as compared to last financial year). Service revenue had also shown the same growth percentage (Php 125.1 billion for the year 2006 and Php 121.1 billion for 2005). The PLDT's total cellular subscriber base for the year grew by 1.2 million to 20.4 million.

Fixed line service revenues improved to Php 49.7 billion in 2005 from Php 48.5 billion last year due to a significant increase in data revenues which more than offset the declines in local exchange, NLD and ILD revenues.

Smart Communications, Inc. (Smart) (www.smart.com.ph)

A wholly owned subsidiary of the country's dominant telecommunications carrier, PLDT, Smart operated a nationwide mobile network and a satellite phone service. It had the most extensive and modern digital communications GSM network and infrastructure in the country, covering over 99 percent of the population. Smart was the Philippines' leading wireless services provider with 22.9 million subscribers on its GSM network as of end-September 2006, equivalent to approximately 58% market share. And by the end of February 2007, it had 25 million subscribers.

In 2006, Smart added about 1.2 million subscribers in 4Q 2006 resulting in a total combined subscriber base of about 24.2 million as of year ending 2006. Service revenue grew by 5% i.e. to Php 78.4 billion. Company's EBITDA had also increased with the same percentage (5%) to Php 50.3 billion.

Appendix 2: Roles and Responsibilities of NTC

For the effective enforcement of this liability, it takes on and publicizes such guidelines, rules, and regulations relative to the establishment operation and maintenance of various telecommunication facilities and services nationwide.

The NTC believes that it is in competitive world, communications industry will achieve a formidable status. The five key goals inspire, as it move towards a competitive environment

- To establish a better, pro-competitive interconnection standards for telecommunications technologies;
- To deregulate communications services, that ensure fair rules of competition, where consumers can choose the best combination of price, service and quality for their needs
- To protect consumers, to make sure that their interest is not compromised, as the sector move towards a competitive marketplace and encourage wider entry
- To promote efficient use of the electromagnetic spectrum to develop products that consumers want, and
- To catch up with the world leaders in telecommunications in terms of regulation and reform by following the standards set by advanced nations for promoting open and competitive markets.

NTC has 14 Regional Offices nationwide which are under the direct control of the Office of NTCer. Functions of NTC are, to supervision and control over all telecommunications and broadcast services/ facilities of the country.

Appendix 3: 3G Services Around the World

To date, 134 3G licenses have been awarded across 48 countries to operators that will deploy 3G services, with 67 networks having launched commercial services. As of November 2004, Vodafone has launched 3G services in 13 different markets around the world. 3G has been launched in Australia (by Hutchison in April 2003), Hong Kong (by Hutchison in January 2004, and by Hong Kong CSL and SmarTone in December 2004), Japan (in October 2001 and December 2002), Korea (by KTF and SKT in December 2003), Singapore (by SinGTIel Mobile in December 2004 and Starhub in April 2005), and Malaysia (by Maxis Mobile in April 2005). Planned launches across Asia include those in Australia (by Optus, Vodafone and Telstra), Hong Kong (by Sunday), Indonesia (by Natrindo Telepon Selular), Malaysia (by Telekom Malaysia), New Zealand (by TelstraClear and Vodafone), Singapore (by M1), and Thailand (by TOT).

Worldwide, the total number of 3G subscribers has reached 22 million, a 500% market growth during 2004 alone, with the Asia-Pacific region showing the strongest growth. Telecommunications market analyst EMC estimates that by December 2009, there will be more than 325 million 3G subscribers. Hutchison's total 3G customer base, currently standing at over 80 million worldwide, saw a 70 million growth in 2004. In Japan, NTT DoCoMo achieved the ten millionth 3G customer in February 2005.

Appendix 4: Number of Subscribers and Growth of Revenue in 3G

In the United Kingdom, Hutchison 3G reported more than ten million music video downloads in the last six months of 2004. Along the same lines, Vodafone has launched a catalogue of 500,000 full-length music tracks as part of its live 3G offering in Europe. The said company has likewise launched customer service contact by video calls. In Hong Kong, CSL and Real Networks have announced the availability of Asia's first mobile media service, enabling customers to watch on-demand video while transparently switching between CSL's GPRS (2.5G), EDGE (2.75G) and the new UMTS (3G) data networks. MediaCorp Studios and the Media Development Authority (MDA) of Singapore have announced Asia's first 3G mobi-dramas via media streaming. The thirty-episode Chinese mobi-drama is slated to make its debut in Singapore in mid-June 2005. In South Africa, Vodacom has launched 3G with global and local content including picture messaging, games, polyphonic ringtones, 3D Java games as well as video messaging, video phone calls and music downloads.

Appendix 5: Revised Memorandum Circular dated August 7, 2005

Rules and regulations on the allocation and assignment of 3G radio frequency bands

Allocation of radio frequency bands for international mobile telecommunications 2000 (IMT 2000) or third generation mobile telecommunications.

The following radio frequency bands as identified by the International Telecommunications Union (ITU) are hereby re-allocated for the use of international mobile telecommunications (IMT2000) or 3G mobile telecommunications in the Philippines and shall form part of the National Radio Frequency Allocation Table (NRFAT), namely:

825 – 845MHz*
870 – 890MHz*
1880 – 1900MHz
1920 – 1980MHz
2110 – 2170MHz
2010 -2025MHz

The above-allocated frequency bands shall be made available for assignment to not more than 5 qualified public telecommunications entities (PTE).

*These frequencies are currently assigned to existing CMTS operators.

Criteria to be used in the selection of qualified public telecommunications entities

Only entities with authorizations to install, operate and maintain cellular mobile telecommunications system (CMTS) or 3G shall be accepted as applicants for the assignment of herein allocated 3G radio frequency bands.

Existing duly authorized cellular mobile telephone service providers opting to upgrade their networks to 3G shall qualify as applicants for the assignment of 3G frequencies subject to the provisions of the applicable Sections hereof, more particularly, Section 3.6 and Sections 4, 5, 6, and 7.

An entity intending to operate a 3G mobile telecommunications system shall file its application for authority or certificate of public convenience and necessity (CPCN) to install, operate and maintain a 3G mobile telecommunications system to the Commission not later than thirty (30) calendar days from the effectivity of this Circular. The applicant shall possess the following minimum qualifications:

- a. Holder of a valid Congressional franchise;
- b. For new public telecommunications entities, the minimum paid-up capital stock shall be Php100 million;
- c. For existing duly authorized PTEs, debt to equity ratio shall be 70:30 with total investments in the CMTS or 3G networks of at least Php400 million already included in the calculation of the debt to equity ratio; and
- d. Must prove that it has the technical capability to install, operate and maintain the proposed CMTS or 3G networks.

The application shall undergo quasi-judicial process. The process shall be completed within 60 calendar days from date of the affectivity of this Circular.

For existing authorized PTEs, no outstanding unpaid supervision and regulations fees (SRF), spectrum user fees (SUF), radio station license fees, permit fees and other fees imposed by the National Telecommunications Commission pursuant to la w, rules and regulations.

Must submit a written undertaking that it shall interconnect with all 3G networks, cellular mobile telephone networks, local exchange networks and all other public networks pursuant to existing laws, rules and regulations on mandatory interconnection.

Must submit a written undertaking that it shall allow the sharing of its network and facilities with other 3G players in areas where demand does not allow more than 1 3G network.

Must submit written undertaking that it shall negotiate roaming agreements with other 3G networks or existing duly authorized CMTS service providers.

Must submit a 5-year roll-out plan to cover at least 80% of the provincial capital towns/cities and 80% of the chartered cities.

Must submit schedule of rates for the different types of 3G services to be offered. The schedule of rates shall be the maximum rates that can be charged within the first 24 months from start of commercial operations which shall not be later than 30 months from date of award of the 3G radio frequency bands. Other 3G services not included in the submitted list may be offered subject to prior approval by the Commission;

Entities with applications for the assignment of the 3G radio frequency bands may form a consortium. A consortium formed must provide the details of all its members, including the details of their ownership and control structure.

Applicants for the assignment of the herein allocated 3G radio frequency bands shall be ranked based on the track record, roll-out commitments and rates to be charged from consumers/subscribers/users.

Determination of qualified applicants

The Commission shall, not later than 90 days from the affectivity of this Circular, evaluate all applications for the assignment of the 3G radio frequency bands and determine the best qualified applicants using the criteria described above in Sec. 3.6 of this Circular. Within 10 days after the determination of the best qualified applicants, the Commission shall send notices of the results of the evaluation to all applicants.

Performance Bonds

All applicants for the assignment of 3G radio frequency bands shall post performance bond equivalent to PHP300M. The performance bond shall be submitted to the Commission not later than 90 days from the affectivity of this Circular.

Spectrum Fees

The annual spectrum user fees (SUF) for the allocated and assigned 3G radio frequency bands shall be:

For paired 3G radio frequency bands

- a. for the first 5MHz, the SUF shall be PhP 5.00 million per MHz;

- b. for each additional 1MHz or fraction thereof in excess of the first 5MHz but not exceeding 10MHz, the SUF shall be PhP 8.00 million per MHz;
- c. for each additional 1MHz or fraction thereof in excess of the first 10MHz but not exceeding 15MHz, the SUF shall be PhP 10.00 million per MHz;
- d. for each additional 1MHz or fraction thereof in excess of the first 15MHz, the SUF shall be PhP15.00 million per MHz.

For unpaired 3G radio frequency bands

- a. for the first 5MHz, the SUF shall be PhP 3.00 million per MHz;
- b. for each additional 1MHz or fraction thereof in excess of the first 5MHz but not exceeding 10MHz, the SUF shall be PhP 6.00 million per MHz;
- c. for each additional 1MHz or fraction thereof in excess of the first 10MHz but not exceeding 15MHz, the SUF shall be PhP 8.00 million per MHz;
- d. for each additional 1MHz or fraction thereof in excess of the first 15MHz, the SUF shall be PhP12.00 million per MHz.

The SUF shall be paid not later than 31 January of each year. A penalty of 25% shall be imposed if the amount is not paid within the prescribed period. If the SUF is not paid in full the 25% penalty shall be imposed on the balance. Additional 1% per month penalty shall be imposed on the outstanding unpaid SUF.

An additional SUF of PhP2M shall be imposed on each authorized 3G network operator for every 100,000 additional subscribers/users in excess of the first 4 million subscribers/users. The number of subscribers/users to be used in the computation of the SUF for the current year shall be based on the number of subscribers/users reported by each authorized 3G network operator at the end of the immediately preceding year or one-half (1/2) of the maximum capacity of the access codes assigned as of the immediately preceding year; whichever is higher.

Existing duly authorized cellular mobile telephone service providers opting to upgrade their networks to 3G using their existing assigned radio frequencies, and qualified pursuant to Sec.3.2 hereof, shall pay annual SUF of PhP65M for the first 10MHz x 2 radio frequency band plus PhP8M for each additional 1MHz x 2 of radio frequency in excess of the first 10MHz x 2.

An additional SUF of PhP 2M shall also be imposed for every 100,000 additional subscribers/users in excess of the first 4 million subscribers/users. The number of subscribers/users to be used in the computation of the SUF for the current year shall be based on the number of subscribers/users reported by each authorized 3G network operator at the end of the immediately preceding year or one-half (1/2) of the maximum capacity of the access codes assigned as of the immediately preceding year; whichever is higher. The SUF shall be paid not later than 31 January of each year. A penalty of 25% shall be imposed if the amount is not paid within the prescribed period. If the SUF due is

not paid in full the 25% penalty shall be imposed on the balance. Additional 1% per month penalty shall be imposed on the outstanding unpaid S of the SUF for the current year shall be based on the number of subscribers/users reported by each authorized 3G network operator at the end of the immediately preceding year or one-half (1/2) of the maximum capacity of the access codes assigned as of the immediately preceding year; whichever is higher SUF.

Obligations of the Assignees

The assignees shall comply with the following obligations:

- a. Within fifteen (15) days from the award of the 3G frequencies, they shall remit to the Commission payments for the SUF equivalent to 1/2 of the amount specified in Section 6 if the award is made on or before 30 June and the full amount if award is made after 30 June covering the year when the award is made, and thereafter, pay annual spectrum user fees prescribed in Sec. 6 hereof;
- b. Increase the paid capital to Php400 million not later than 30 days from date of assignment of 3G radio frequencies (for new public telecommunications entities);
- c. Begin the installation and construction of the 3G network and facilities not later than 12 months from date of award;
- d. Start commercial operation not later than 30 months from date of award;
- e. Cover at least 80% of the provincial capital cities and towns and 80% of the chartered cities within 60 months from date of award;
- f. Strictly comply with the schedule of rates submitted;
- g. Strictly comply with the prescribed service performance standards;
- h. Interconnect with all 3G networks, cellular mobile telephone networks, local exchange networks and all other public networks pursuant to existing laws, rules and regulations on mandatory interconnection;
- i. Share its 3G network and facilities with other 3G players in areas where demand does not allow more than one 3G network at mutually agreed prices or at prices set by the Commission. Only 3G operators that have complied with their approved roll-out plans can share their networks and facilities subject to mutually agreed commercial terms and conditions;

All assignees of 3G radio frequencies shall within 120 days from date of assignment of the 3G radio frequencies shall jointly submit to the Commission list of areas where sharing of networks and facilities shall be implemented including the pricing for the use of the networks and facilities.

- Negotiate roaming agreements with other 3G networks and existing duly authorized CMTS service providers. Only 3G operators that have complied with

their approved roll-out plans can negotiate roaming agreements among themselves and with existing duly authorized CMTS service providers;

Where parties fail to enter into a mutual agreement within 90 days from the start of commercial operations of the 3G operators, the Commission shall prescribe the terms and conditions for roaming. The terms and conditions for roaming prescribed by the Commission shall only be effective for a period not exceeding 3 years.

- Submit an application for authority to install, operate and maintain local exchange lines or public calling stations in unserved and underserved areas pursuant to Sec. 12 of RA7925 not later than 90 days from the assignment of the herein allocated 3G radio frequencies; and
- Comply with all relevant laws and regulations.

Sanctions

1. 3G network operators shall at all times be updated in the payment of the annual SUF. Failure to settle outstanding SUF after a reasonable period of time from due date thereof, shall be ground for the recall of the assigned 3G radio frequency bands.

2. The failure of 3G network operators to comply with any of the obligations specified in Section 7 hereof shall be a cause for the cancellation of their authority to provide 3G services, and for the recall of the assigned 3G radio frequency bands.

Appendix 6: Roll out Plan of AZCN

Year	Cities	Municipality
Total	90	935
5	14	124
4	12	129
3	14	265
2	28	413
1	22	4

Source: Consolidated Order dated 29th December, 2005, NTC

Appendix 7: Roll out Plan of CURE

Year	Cities	Municipality
Total	71 (78%)	61 (4.12%)
1	21 (23%)	10 (0.67%)
2	17 (14%)	42 (1.42 %)
3	18 (62%)	15 (2.43%)
4	15 (78%)	25 (4.12%)

Source: Consolidated Order dated 29th December, 2005, NTC

Appendix 8: Submission Made by BayanTel

Bayntel's view was that its track record should be evaluated under the same parameters while the consolidated decision did not categorically state that track record should be 3G-specific, the MC, stated that track record should focus particularly on 3G networks (MC No. August 7, 2005, Section 3, par f). On this score, its current network served as sufficient proof of a track record. Bayntel felt that track record of compliance with commitments under prior authorizations should also include local exchange (LEC) and Data services should be considered since no entity could boast of a 3G track record.

MTI had been evaluated on commitments on prior authorizations, and Bayntel coverage being more extensive it should have got higher rating.

Granting a score of four 4 points to new company applicants, for simply meeting the minimum required paid up capitalization was inadequate indicator of capability to operate and maintain a 3G network. It may even be misleading because this paid-up capital may have already been impaired by the initial start up expenses for building a network.

Bayntel was ahead of its schedule by 18 months in complying with the obligation of rolling out 300,000 LEC's on the other hand, other CMTS operators including those now ranked among the top three best qualified applicants, either failed or were delayed in complying with their LEC roll-out obligations.

Its full feature WLL System that should be considered fully upgradeable to a full 3G system other facilities/assets that would enable a quick 3G roll-out or 3G expansion.

National Telecommunications Backbone

Bayntel had a majority and controlling interest in the National Digital Transmission Network (NDTN), a 10 gigabit backbone project of six Philippine telecommunications carriers.

Bayntel was entitled to be credited with 8 points instead of 7 for submitting a roll-out plan that exceeds the minimum required coverage

As per NTC MC August 7, 2005 required the minimum coverage was 80% of provincial capital cities and 80% of chartered cities. Bayntel's roll-out proposal covered 82% of provincial capital cities and 87% of chartered cities; its roll-out proposal was over and above the minimum required coverage. Accordingly, Bayntel should be credited with at least 8 points instead of only 7.

Bayntel should have qualified as an assignee of 3G frequency, if the additional points for track record and roll-out plans are properly credited in its favor

With at least 5 additional points for track record and 1 additional point for submitting a roll-out plan that is over and above the minimum required coverage; would qualify Bayntel as a 3G assignee. The last unallocated 3G band could be allocated to it.

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