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Merrill Lynch

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Stock Data

Price	Rs151.00
Price Objective	Rs180.00
Date Established	5-Dec-2006
Investment Opinion	C-1-7
Volatility Risk	HIGH
52-Week Range	Rs90.90-Rs157.80
Mrkt Val / Shares Out (mn)	US\$27,879 / 8,245.5
Average Daily Volume	1,101,878
ML Symbol / Exchange	NTHPF / BSE
Bloomberg / Reuters	NATP IN / NTPC.BO
ROE (2007E)	13.7%
Net Dbt to Eqty (Mar-2006A)	25.2%
Est. 5-Yr EPS / DPS Growth	14.0% / 14.0%
Free Float	10.5%



Buy for value creation

Raising Price ObjTo Rs180:Three Catalysts should drive valuations

We have raised our estimates of NTPC's capacity addition and earnings, and our PO to Rs180. NTPC has been one of the best performing utilities in India (+20% over 3-month absolute; vs. MSCI Utility Index +4%) and we expect this to continue on three catalysts.

Catalyst #1: capacity add up 14% during FY08-12E

We now expect 50.4GW of installed capacity by FY12 from 47.5GW; vs. 23.9GW in FY06, led by new fast track projects NTPC has gained from Delhi state to meet power demand for the 2010 Commonwealth Games and improved fuel security. We also adjusted fuel mix, adding coal projects, and removing some hydro ones.

Catalyst #2: coal blocks development starts

NTPC has started developing captive coal blocks with reserves of 4.4bn tn. It would a) aid excess power generation, which would drives a premium power RoE (19%) and b) allow investment of surplus cash into higher yield assets (power/coal). We are not yet including coal profits in our model, which should be possible.

Catalyst #3: attractive hydro in its portfolio now

NTPC is building 1.12GW of merchant power plant in lucrative hydro space for which we forecast a RoE of 15-50%; given peaking power shortages in India, vs. its regulated business' ~17-19%. More such projects could further enhance RoE.

We raised our PO to Rs180

Our PO is based on our DCF anlaysis. The increase is predicated on by higher capacity, utilization rates and efficiency gains led by increased fuel security. We also reduced the discount to DCF to 10% (from 12%) on improved visibility on capacity add (lower uncertain hydro capacity) and likely control over coal supplies. Also we factor-in rise in EPS (2%) for FY07-09E.

Estimates (Mar)

(Rs)	2005A	2006A	2007E	2008E	2009E
Net Income (Adjusted - mn)	49,834	55,710	64,218	78,623	85,430
EPS	6.21	6.76	7.79	9.54	10.36
EPS Change (YoY)	21.6%	8.9%	15.3%	22.4%	8.7%
Dividend / Share	2.46	2.80	3.31	4.02	4.36
Free Cash Flow / Share	0.299	0.075	(5.45)	(6.20)	(13.55)

Valuation (Mar)

	2005A	2006A	2007E	2008E	2009E
P/E	24.33x	22.35x	19.39x	15.84x	14.57x
Dividend Yield	1.63%	1.85%	2.19%	2.66%	2.89%
EV / EBITDA*	23.02x	20.96x	16.95x	13.30x	10.45x
Free Cash Flow Yield*	0.193%	0.050%	-3.61%	-4.10%	-8.97%
Price/Book Value	3.0	2.8	2.6	2.4	2.2

^{*} For full definitions of $iQmethod^{SM}$ measures, see page 25

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iQprofile[™] NTPC Ltd.

Key Income Statement Data (Mar)	2005A	2006A	2007E	2008E	2009E
(Rs Millions)					
Sales	225,317	260,977	306,636	364,568	431,360
Gross Profit	65,356	71,425	87,899	111,457	141,203
Sell General & Admin Expense	(5,047)	(5,204)	(5,985)	(7,104)	(8,389)
Operating Profit	40,725	45,744	54,915	72,283	87,270
Net Interest & Other Income	11,821	11,988	11,460	8,389	(573)
Associates	NA	NA	NA	NA	NA
Pretax Income	52,546	57,732	66,375	80,672	86,698
Tax (expense) / Benefit	(2,712)	(2,022)	(2,157)	(2,050)	(1,268)
Net Income (Adjusted)	49,834	55,710	64,218	78,623	85,430
Average Fully Diluted Shares Outstanding	8,029	8,246	8,246	8,246	8,246
Key Cash Flow Statement Data					
Net Income (Reported)	49,834	55,710	64,218	78,623	85,430
Depreciation & Amortization	19,584	20,477	26,999	32,070	45,543
Change in Working Capital	(12,543)	(10,257)	(8,035)	(2,983)	(4,028)
Deferred Taxation Charge	NA	NA	NA	NA	NA
Other Adjustments, Net	0	0	0	0	C
Cash Flow from Operations	56,875	65,930	83,181	107,710	126,945
Capital Expenditure	(54,475)	(65,312)	(128,120)	(158,801)	(238,638)
(Acquisition) / Disposal of Investments	(7,518)	(8,156)	14,331	7,400	18,193
Other Cash Inflow / (Outflow)	(2,001)	1,034	(112.700)	(151 401)	(220.445)
Cash Flow from Investing	(63,994)	(72,434)	(113,789)	(151,401)	(220,445)
Shares Issue / (Repurchase)	26,651	(53)	(21.012)	(27.744)	(40.021)
Cost of Dividends Paid	(22,470)	(26,325) 4,717	(31,013)	(37,744)	(40,931)
Cash Flow from Financing Free Cash Flow	20,531 2,400	618	32,293 (44,939)	45,700 (51,091)	89,996 (111,693)
Net Debt	82,879	113,269	172,640	251,802	383,938
Change in Net Debt	(5,298)	30,390	59,371	79,163	132,136
Key Balance Sheet Data	(0,270)	00,070	07,071	77,100	102,100
	222 400	247 225	140 2E7	EOE 007	700 102
Property, Plant & Equipment Other Non-Current Assets	322,400	367,235 189,054	468,357 174,723	595,087 167,323	788,183 149,130
Trade Receivables	180,898 13,747	8,678	15,104	17,966	21,257
Cash & Equivalents	87,999	88,704	92,639	96,920	95,711
Other Current Assets	54,439	63,700	75,794	87,809	100,704
Total Assets	659,483	717,371	826,617	965,105	1,154,985
Long-Term Debt	170,878	201,973	265,279	348,723	479,649
Other Non-Current Liabilities	3,375	4,409	4,409	4,409	4,409
Short-Term Debt	NA	NA	NA	NA	NA
Other Current Liabilities	67,467	61,402	71,887	83,780	95,939
Total Liabilities	241,720	267,784	341,575	436,912	579,998
Total Equity	417,763	449,587	485,042	528,193	574,988
Total Equity & Liabilities	659,483	717,371	826,617	965,105	1,154,985
<i>iQmethod</i> ^{sм} - Bus Performance*					
Return On Capital Employed	9.9%	10.4%	10.3%	10.9%	10.3%
Return On Equity	12.9%	12.8%	13.7%	15.5%	15.5%
Operating Margin	18.1%	17.5%	17.9%	19.8%	20.2%
EBITDA Margin	26.8%	25.4%	26.7%	28.6%	30.8%
<i>iQmethod</i> ^{sм} - Quality of Earnings*	_5.0.0	_30	_00	_0.0.0	30.070
Cash Realization Ratio	1.1x	1.2x	1.3x	1.4x	1.5x
Asset Replacement Ratio	1.1X 2.8x	3.2x	1.3x 4.7x	5.0x	1.5x 5.2x
Tax Rate (Reported)	5.2%	3.5%	3.3%	2.5%	1.5%
Net Debt-to-Equity Ratio	19.8%	25.2%	35.6%	47.7%	66.8%
THOL DODE TO EQUITY INSTE	17.070	20.270	55.070	71.170	00.070
Interest Cover	4.7x	3.8x	3.9x	3.9x	3.5x

^{*} For full definitions of *iQmethod* SM measures, see page 25.

Company Description

NTPC is Asia's largest IPP with a capacity of 23GW (19% of India's capacity) and generates 159bu (27% of India's generation) of power. Its has 13 coal-based plants, 7 gas-based plants and 3 JV projects. It uses two main fuels, coal and gas, and is expected to start hydro generation by FY09. It plans to start coal mining in Nov 2007. Its efficienct operations makes NTPC one of the most profitable IPP in India, which earns excess RoE.

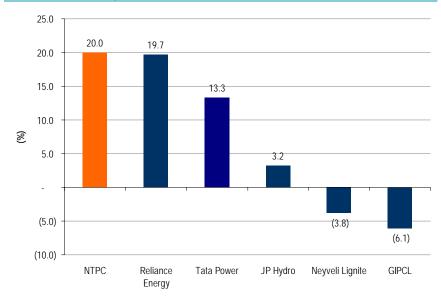
Stock Data

rice to Book Value	2.57x
rice to book value	2.011

Overview:

We are raising our estimates of NTPC's capacity addition and earnings, and raising our price objective to Rs180. Despite being the one of the best performing Utility stocks in India (stock up 20% over 3-months v/s MSCI Utility Index 4.3%), we think there is more potential upside and re-iterate our Buy rating.

Chart 1: 3-month stock performance



Source: ML Research

NTPC: Key Vehicle of Govt Of India.

We note that NTPC remains a key vehicle of Govt. of India to pursue power capex. The following suggests the company has the confidence of decision makers at the highest levels.

- Decision of the government to allocate huge coal mines to ensure that NTPC does not suffer on account of delay in coal capex,
- NTPC is the first organization allowed to enter the nuclear power space apart from the Nuclear Power Corp. to implement Govt.'s vision of 20GW by 2020.
- Allocation of more hydro projects both on regulated return and for merchant power.
- Given the responsibility in reviving the 2.1GW Dabhol Power Project (ex-Enron) to NTPC and
- NTPC was also chosen to take-over under-performing power plants of state electricity boards (SEBs) and turn them around. E.g. recently NTPC formed a 51:49 JV with Bihar SEB for its 2x110 MW project.

We re-iterate our Buy rating led by 3 key catalysts:

We hike NTPC's XI plan capacity addition 2nd time in 2006; which indicates the strong business momentum it is experiencing...

Hike capacity addition by 14% Over FY08-12E

We have raised NTPC's capacity expansion by 14% to 22.5GW from 19.8GW over FY08-12E (India's XI plan) led by new fast track projects which it has gained from the state of Delhi for power supply ahead of the Commonwealth Games in 2010 & the improved fuel security resulting from acquisition of coal mines (see Table 1).

We have effected changes in fuel mix – added more coal projects (3800MW)
 & removed uncertain hydro (Teesta - 825MW) capacities.

Table 1: New coal capacities (MW)

Project	Fuel	Installed Capacity Comments
Barh - II	Coal	1,320 Equipment tender likely issued in FY08E, order likely by end-FY08E
Badarpur Expansion	Coal	980 Likely ordered on BHEL post-environmental clearance
Haryana Project	Coal	1,500 Likely ordered on BHEL post clearances
Total		3,800
Source: Company, Merrill Lynch Re-	search	

- We have also added NTPC's recently won 4500MW of Hydro projects in Arunachal Pradesh for likely commissioning in XII Plan (FY13-17E).
- Gas based projects: We have assumed that 1980MW Kayamkulam project now gets implemented in JV with fuel supplier v/s earlier 100% by NTPC. We have also factored-in likely delay in Kawas & Gandhar gas based projects by one year (FY09E) to factor-in delay in conclusion of gas sales and purchase agreement (GSPA) between NTPC & RIL.

Table 2: Cumulative Installed Capacity Plan

Year End Mar31	FY05	FY06	FY07E	FY08E	FY09E	FY10E	FY11E	FY12E
Coal (MW)	19,480	19,980	23,895	25,715	28,685	32,825	37,435	41,815
Gas (MW)	3,955	3,955	3,955	3,955	6,667	6,667	6,667	6,667
Hydel (MW)	0	0	0	0	600	800	1,360	1,920
Own Capacity	23,435	23,935	27,850	29,670	35,952	40,292	45,462	50,402
JV (MW)	314	314	636	1,535	1,535	2,035	3,836	3,896
Total Capacity (MW)	23,749	24,249	28,486	31,205	37,487	42,327	49,298	54,298

Table 3: NTPC - Capacity adds (MW)

		Total Capacity								
Project	Fuel	(MW)	FY06	FY07	FY08	FY09	FY10	FY11	FY12	Status
Coal Based Projects										
Rihand Super Thermal Stage II	Coal	1000	500							BHEL is contractor
Vindhyachal Super Thermal Stage III	Coal	1000		1,000						BHEL is contractor
Kahalgaon Stage II	Coal	1500		1,500						BHEL is contractor
										Supercritical boiler awarded to Doosan & turbine & generator awarded
Sipat Stage I	Coal	1980			1,320	660				to Russian supplier
Sipat Stage II	Coal	1000		500	500					BHEL is contractor
Feroze Gandhi Unchahar	Coal	210		210						BHEL is contractor
Bahr - I	Coal	1980				1,320	660			Awarded to Russian Supplier - Power Machines
North Karanpura	Coal	1980						660	1,320	Equipment tender issued, order likely by mid-FY08E
										Coal Mine allocated, Equipment order likely on negotiated basis with
Darli Palli	Coal	3200							1,600	BHEL in end-FY07E / early FY08E
Korba	Coal	500				500				BHEL is contractor
Simhadri - II	Coal	1000					500	500		Equipment tender issued, order likely by mid-FY08E
Barh - II	Coal	1320						660	660	Equipment tender likely issued in FY08E, order likely by end-FY08E
										BHEL is contractor for 490MW; Likely ordered for another 490MW on
Dadri	Coal	980				490	490			BHEL post-environmental clearance
Mauda, Maharashtra	Coal	1000					500	500		
										Coal Mine allocated, Equipment order likely on negotiated basis with
Lara	Coal	4000						800	800	BHEL in end-FY07E / early FY08E
Badarpur Acquisition	Coal	705		705						Acquired from Govt.
Badarpur Expansion	Coal	980					490	490		Likely ordered on BHEL post-environmental clearance
Haryana Project	Coal	1500					1,000	500		Likely ordered on BHEL post clearances
Bongaigaon	Coal	500						500		
Farraka - III	Coal	500					500			
Gas Based Projects										
Kawas II	Gas	1356				1,356				Likely award to BHEL
Gandhar II	Gas	1356				1,356				Likely award to BHEL
Hydro Based Projects										
										The contracts for construction issued to Continental.
Koldam Hydro	Hydel	800				600	200			Electromechanical ordered on BHEL
Loharinag Pala	Hydel	600						300		The contracts for construction issued to Patel Engg.
Tapovan Vishnugad	Hydel	520						260	260	The contracts for construction issued to HCC, L&T led JV
Etalin	Hydel	4000								DPR stage
Attunli	Hydel	500								DPR stage
Total - New Adds		35967	500	3915	1820	6282	4340	5170	4940	
Fuel wise capacity adds break-up										
Coal			500	3,915	1,820	2,970	4,140	4,610	4,380	
Gas						2,712				
Hydel						600	200	560	560	



Started development of captive coal blocks NTPC has been allocated captive coal blocks with total reserves (attributable) of 4.4bn tons.

Coal shortages in India and resultant production losses have been the biggest risk to NTPC earning superior RoE on its power assets, in our view.

To provide NTPC with fuel security, NTPC / its Joint Venture with Coal India Limited, was allocated seven coal blocks by Ministry of Coal in early 2006. This is in addition to the one basket mine - Pakri Barwadhi (PB) allocated earlier.

Table 4: NTPC's coal mine details

Coal Mine (figure in MT)	Reserves	Ownership	Attrib. Reserves
Pakri Barwadhi	1436	100%	1436
Kerandari, North Karanpura	228	100%	228
Chatti Bariatu, North Karanpura	243	100%	243
Chattrasal, Singrauli	150	100%	150
Dulanga, Ib Valley	260	100%	260
Talaipalli	965	100%	965
Sub total : Own Mine	3282		3282
Brahmini	1900	50%	950
Chichro Patsimal	356	50%	178
Sub total: 50:50 JV with Coal India	2256	50%	1128
TOTAL	5538		4410

Source: Company, Merrill Lynch Research

Location Map Coal Blocks Chatrasal Location Singrauli Geological reserves 150 Coal Blocks Dhulanga Location IB Valley Orissa Tentative capacity (MTPA) Geological reserves **Coal Blocks** Talaipalli Tentative capacity (MTPA) 5 Location Raigarh Geological 965 reserves Tentative capacity Coal Blocks Chattibariatu (MTPA) Pakri Barwadih Kerandari Location North Karanpura BAY C North Karanpura North Karanpura Geological 1436 243 228 reserves 🛪 Tentative capacity 15 5 5 (MTPA)

Chart 2: Location Map of NTPC's coal blocks

Source: Company, Merrill Lynch Research

Of the above, following coal mining blocks have been allocated for mining of coal for exclusive use in NTPC's proposed power plants.

Further, the Talaipalli coal mining block has been allocated for meeting coal requirement for the proposed ultra mega (4000MW) power project i.e. Lara integrated coal mine-cum-power project.

Table 5: Details of exclusive Coal mines allotted to NTPC

Coal Mine Reserves Kerandari, North Karanpura 228 MT Chatti Bariatu, North Karanpura 243 MT Chhatrasal, Singrauli 150 MT Dulanga, Ib Valley 260 MT Talaipalli Coal Mine 965 MT Source: Company

Following coal mining blocks (out of the seven blocks) have been allocated for developing the same by a 50:50 joint venture formed between CIL and NTPC under the Ministry of Coal, Government of India. We have not yet included these blocks in our financials awaiting clarity in management & financial structure.

Table 6: Details of exclusive Coal mines allotted to Coal India & NTPC JV

Coal Mine Reserves Brahmini 1900 MT Chichro Patsimal 356 MT Source: Company

Current Status:

- NTPC has begun the development of its first block i.e. PB block. Tender for the mine developer has received enthusiastic with 7-8 bidders. The bids are likely finalized by March 2007.
- NTPC has received environmental clearance for 1st phase of production and land acquisition formalities are in progress for the PB block.
- NTPC plans to start the first 'box-cut' a trench made in the mining area to expose a portion of the coal seam - by December 2007. Company hopes to start coal production by around May 2008.
- First year production is likely at 1.5mt, which will be ramped-up to ~5mt by third year. NTPC hopes to achieve full 15mt capacity by 5th year.
- We understand that NTPC remains on-track to beat its target of reaching 50mt captive coal production by FY17E in 2-3 years.

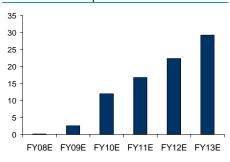
Why Is NTPC Getting Into Coal Mining? We see two key benefits of coal mine acquisition to NTPC: Aids excess generation, which drives its premium power RoE (19%)

Acquisition of the above mentioned captive mines should help NTPC achieve two key purposes in our view, namely:

- Supplement the coal supplies from Coal India in case of shortage / aid plant utilization >80-85% PLF (linkage threshold)
- Help NTPC add further mine-mouth coal-based generation capacity.

We expect captive coal blocks to meet 7% of NTPC's coal requirements by FY09E – its first full year of operation, which we estimate to increase to 15% by FY12E. This should improve fuel security for its plants and aid in excess generation (>80% PLF) to earn production linked incentives resulting in excess RoE (>14% regulated return).

Chart 3: NTPC's Captive Coal Production



Source: ML Estimates

Opportunity to earn coal profits + invest surplus cash

We have modeled the coal business equivalent to power business and hence, taken into account 14% RoE on likely coal investments. This should help NTPC invest its surplus cash (yield 5-6%) into high yield assets (14%).

We have not yet incorporated the opportunity to earn coal profits in our model, which may also be possible if the regulator (CERC) allows NTPC a market price on coal.

More importantly, the captive mines would also help NTPC announce further capex in power business and accelerate its growth rate as discussed above.

Entry Into Lucrative Merchant Power

To restore India's deteriorating hydro: thermal mix (see chart 4), NTPC has been allowed to enter the hydro space.

Capitalizing on the opportunity, NTPC has made entry into merchant power projects in the lucrative hydro space.

Apart from implementing an 800MW regulated return project, it has begun implementing two hydro power projects with combined capacity of 1120MW split across Tapovan Vishnugad of 520MW & Lohari Nagpala of 600MW on merchant basis (returns driven by market, not regulated).

Chart 4: India's Hydro power capacity as percentage of total installed capacity

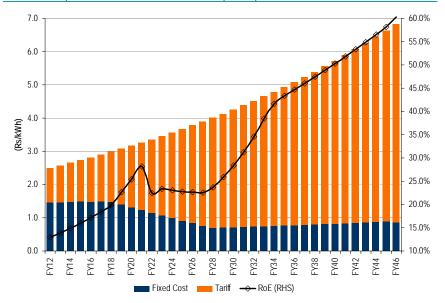
Source: Ministry of Power, CEA, Merrill Lynch Research

Given that the tariff of merchant plants is not regulated, we forecast this capacity to have RoE ranging from 15-50% (see illustrative chart 5) v/s NTPC's regulated business at ~17-19% given the structural attractiveness of these projects i.e.

- Firstly, first year cost is the peak cost for hydro projects and
- Secondly, peaking power shortages in India would keep price of peaking power generated from these hydro projects at premium to base load power. We expect the likely introduction of time-of-day tariff system over-time to drive price premiums for peaking power.

If NTPC is able to gain more projects like these, its RoE profile could be further enhanced.





Source: Merrill Lynch Research

Regulatory Change Could Lift Artificially Depressed Earnings

NTPC follows conservative accounting practices. For instance, it provides for depreciation at 5.28% in P&L as per Company Act despite regulator permitting a depreciation expense of only 3.6% (coal plants) to 6% (Gas) depreciation rate in the tariff. As NTPC's capex is more tilted towards coal plants, higher depreciation in book v/s tariff, depresses NTPC's real earnings by 4.8%-14.5% over FY06-12E and RoE by 0.6%-2.4% in our view.

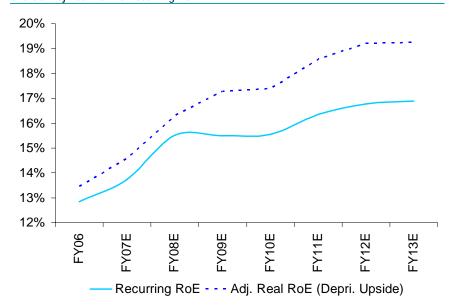
The new tariff policy indicates aligning rate of depreciation recovered in tariff and P&L. NTPC will be the biggest beneficiary of this move when implemented; at 5% of FY08 PAT on ratification of this in Companies Act.

Table 7: Depreciation Upside in Earnings

(in Rs)	FY06	FY07E	FY08E	FY09E	FY10E	FY11E	FY12E
Recurring EPS	6.76	7.79	9.54	10.36	11.33	13.00	14.59
Adj Real EPS	7.08	8.26	10.01	11.55	12.66	14.76	16.71
% Increase	4.8%	6.0%	5.0%	11.5%	11.8%	13.5%	14.5%

Source: Merrill Lynch Research

Chart 6: Adj Real RoE vs Recurring RoE



Source: ML Research

Estimate Change

We have tweaked our FY07-09E based on FY06 actual, higher efficiency gains and improving coal situation. Broadly, we have hiked our earnings for FY07-09 by \sim 2% as shown below.

Table 8: NTPC - Estimates change

Rs mn	Old	New	% change
Sales			J
FY07E	307,961	306,636	-0.4%
FY08E	380,992	364,568	-4.3%
FY09E	447,634	431,360	-3.6%
EBITDA			
FY07E	82,492	81,914	-0.7%
FY08E	105,583	104,354	-1.2%
FY09E	131,615	132,813	0.9%
Recurring PAT			
FY07E	63,144	64,218	1.7%
FY08E	78,512	78,623	0.1%
FY09E	83,716	85,430	2.0%
Recurring EPS (Rs)			
FY07E	7.66	7.79	1.7%
FY08E	9.52	9.54	0.1%
FY09E	10.15	10.36	2.0%
Source: Merrill Lynch Research			

2Q FY07 Result Review

2QFY07 - Ahead of Expectations; PAT +24%YoY

NTPC reported 2QFY07 (ex-prior period items) sales of Rs67.4bn +14% YoY (MLe Rs65.9bn) and EBITDA of Rs17.7bn +16% YoY, led by 8.8% YoY increase in generation to 42.7bu. Led by lower depreciation (-8% YoY) and effective tax rate at 5.1% (vs 6.7% for 2QFY06), NTPC registered 2QFY07 recurring PAT at Rs14.3bn +24% YoY, ~3.5% ahead of our estimates of Rs13.8bn. However, after adjusting for prior period sales, one-time items and the impact of foreign exchange movements, the company reported PAT of Rs14.7bn up 27% YoY.

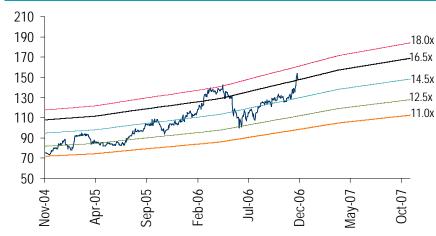
Key drivers of the strong 2QFY07 growth were:

- Higher spot market sales (UI charges).
- Better heat rates/thermal efficiency plus higher fuel prices, increased the value of these incentives,
- Generation was 42.7bu +9%YoY mainly led by better plant load factor (PLF) at older coal plants driving up PLF-linked profits.

Table 9: NTPC's 2QFY07 Results Review

Year end March (Rs mn)	2QFY06	2QFY07	% YoY
Net Sales	59259	67418	14%
Fuel Cost	(36857)	(43328)	18%
% of net sales	62.2%	64.3%	
Employee Cost	(2287)	(2679)	17%
% of net sales	3.9%	4.0%	
Others	(3192)	(3723)	17%
% of net sales	5.4%	5.5%	
Rebate under one time settlement	(1737)	0	
EBITDA	15186	17688	16%
% Margin	26%	26%	
Depreciation	(5202)	(4780)	-8%
EBIT	9984	12908	29%
% Margin	17%	19%	
Interest	(3912)	(4378)	12%
Other Income: Recurring	6300	6505	3%
PBT	12372	15035	22%
Current Tax	2721	(9915)	
Deferred Tax	1008	808	
FBT	(47)	(46)	
Less: Recoverable	(4514)	8389	
Provision for tax	(832)	(764)	-8%
Recurring PAT	11540	14271	24%
Prior Period income/ (expense)	776	720	
Exchange rate gains / (losses)	1269	(252)	
Other Exceptional income/ (losses)	(1950)		
Reported PAT	11635	14739	27%
Source: Company			

Chart 7: NTPC - PE Band



Source: Trends, Merrill Lynch Research

Valuations & Rating:

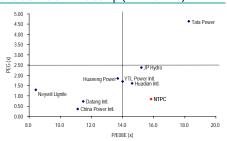
We have raised our PO based on our DCF analysis led by higher capacity, utilization rates & efficiency gains led by increased fuel security. We have also reduced the discount to DCF value to 10% (from 12%) to account for improved visibility on capacity add (lower uncertain hydro capacity) & likely control over coal supplies. We maintain our Buy rating on the stock.

Table 10: Sensitivity to DCF

			Termina	I Growth Rate		
		1.0%	1.5%	2%	2.5%	3.0%
	8.8%	240	254	269	286	306
	9.3%	218	229	242	256	272
WACC	9.8%	199	208	218	230	244
WACC	10.3%	182	189	198	208	220
	10.8%	166	173	181	189	199
	11.3%	153	159	165	172	180
	11.8%	140	146	151	157	164

Source: Merrill Lynch Research

Chart 8: Asian IPPs comp (PER vs PEG)



Source: Merrill Lynch Research

NTPC v/s Regional Peers

NTPC trades at premium to its comparable Chinese IPPs like HNP and at 19% premium to Asian IPP average, led by its faster growth (see chart 8).

Table 11: Regional IPPs - Valuation Comparables

	PE (x)	P/BV (x)	CARG (%)
	FY08E	FY08E	FY06-08E
NTPC	15.8	2.4	18.8%
HNP	13.7	1.8	7.4%
Huadian	14.6	1.5	9.0%
Datang	11.5	1.6	15.7%
China Power International	11.1	1.6	31.0%
Tenaga	14.7	1.9	25.4%
YTL Power	14.0	1.7	8.2%
Asia IPP Average	13.3	1.7	16.1%

Note: FY06=CY05 and so on. Source: Bloomberg, Merrill Lynch Research

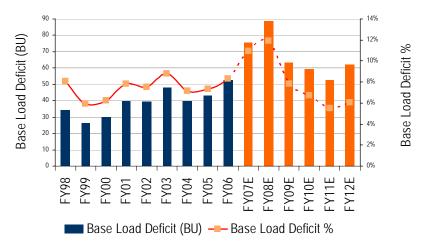
Why Does NTPC Deserve Premium Valuations?

Apart from premium valuation of the Indian market in the Asian region context, we see the following justification for NTPC's premium valuations.

Sustainable demand-supply gap, a growth opportunity

India will likely see a marked improvement in capacity add. Despite this, we forecast the demand-supply gap for power to continue through FY12E. While this would provide growth opportunities for all Indian IPPs, we believe it will be more so NTPC, vs the current over-supply in select regions of China from 2006. Given this situation, even after a doubling its generation capacity by FY12E and witnessing with expected ~14% earnings CAGR over FY06-12E, we expect NTPC to continue to face a deficit market in India.

Chart 9: India's Base Demand Supply Gap

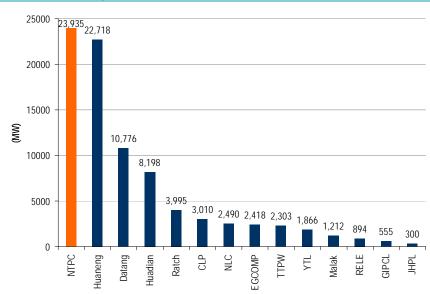


Source: Ministry of Power, CEA, ML Research estimates

Regional power house

NTPC is the largest IPP in Asia in terms of generating capacity (26GW). Size gives it the bargaining power and economies of scale, which boosts competitive advantage. This also provides it the clout to influence policy making.

Chart 10: ASIA IPP Capacities (As of FY06/CY05)



Source: Merrill Lynch Research

Conservative accounting artificially depresses earnings

NTPC follows conservative accounting practices. For instance, it provides for depreciation at 5.28% in P&L as per Company Act despite regulator permitting a depreciation expense of only 3.6% (coal plants) to 6% (Gas) depreciation rate in the tariff. As NTPC's capex is more tilted towards coal plants, higher depreciation in book v/s tariff, depresses NTPC's real earnings by 4.8%-14.5% over FY06-12E and RoE by 0.6%-2.4% in our view. (refer Chart 6 and Table 7)



Strength to leverage growth opportunity

NTPC poses a combination of following factors, which should act as enablers of its growth:

- A cash rich balance sheet with cash & equivalents of US\$6.2bn in FY06
- Efficient operation lowest cost operation as depicted by its low tariff (Rs1.6/kWh or US\$0.035/kWh)
- Well-planned growth path, which should enable consistent growth in capacity (hardly any lumpy addition of capacity) and generation until FY12E.
- Stable regulatory regime protects earnings from volatility: India offers a stable regulatory regime for five years (FY04-09). Moreover, all legitimate costs are allowed as pass-through in tariff, without any Govt. intervention which reduces earnings volatility and markedly improves visibility v/s Chinese IPPs.



The Big Picture

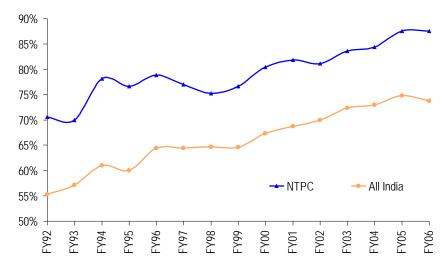
NTPC can be differentiated from most Indian corporates for its clearly laid out expansion plans until FY17E. It is expected to almost triple capacity with a strategy to execute it already in place and a healthy balance sheet to support it. This greatly improves visibility for long-term investors.

Key Elements Of NTPC's Strategy

NTPC aims to continue generating superior returns (RoE) through

- Vertical integration Integrating raw material (coal / gas) to the distribution value chain.
- Aggressive capacity expansion new plants and acquisition of underperforming plants for turnaround (potentially 5GW ~20% of NTPC's current capacity)
- Superior O&M practices having good O&M practices in-place resulting in its PLF being consistently ahead of the peers (see chart below).
- Efficient execution and cost funding Setting-up capacity in the shortest possible time and getting lowest cost funding
- Fuel and supplies Choosing most competitive fuel and acquiring control over supplies, if availability poses a problem.
- Accessibility to fuel/markets Locating capacities nearer to fuel / markets
- Efficient T&D Obtaining efficient transmission & distribution systems
- Timely collections Collecting payments on-time
- Improving capital structure Distributing cash to maintain optimum capital structure.

Chart 11: INDIA vs NTPC Coal Plant PLF



Source: Company, Ministry of Power, CEA, Merrill Lynch Research



Table 12: NTPC's Perspective Plan 2017

Total Capacity	Above 75,000MW
Fuel Mix	·
-Thermal	75%
-Hydro	20%
-Nuclear	4%
-Non Conventional	2%
Revenue Split	
-Generation	80%
-Value Chain Diversification	18%
-Services	2%
Integration	
-Forward	Bulk sales to customers, distribution & trading
-Backward	Coal mining, washeries & LNG re-gasification
Source: Company Marrill Lynch Research	

Chart 12: India's Base Demand Supply Gap



Source: Ministry of Power, CEA, ML Research estimates

Core Stock Drivers

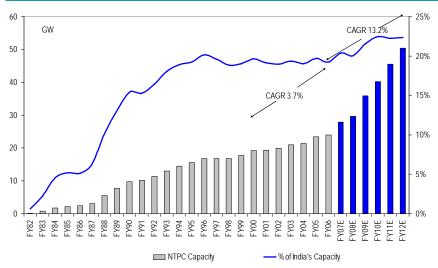
Continuing Demand-supply Gap

We forecast the demand supply gap for power in India to continue through FY12E, despite marked improvement in capacity add. We see this as NTPC's key opportunity for sustainable growth.

11.3% Capacity CAGR Over FY06-08E

NTPC is indeed speeding up its capex by more than tripling its capacity addition growth rate to 13.2% over FY06-12E v/s 3.7% in the last seven years. More importantly, we forecast 11.3% increase in capacity over FY06-08E to arrive at 12.6% production CAGR to touch 216.7bu by FY08E.

Chart 13: NTPC: Capacity Increase



Source: Company, Merrill Lynch Research

We have been conservative in our capacity addition forecast considering the potential fuel shortage. For instance, we have assumed commissioning of only 3915MW in FY07E v/s company guidance of 4415MW. Further, we have assumed commissioning of 2700MW gas based power projects in FY09 v/s NTPC's target of FY07/8.

Spot Market Sales

India's grid discipline has turned out to be a boon for efficient players like NTPC. To optimize the power sector and to instill grid discipline, India introduced the concept of penalty and rewards through availability-based tariff. Under this mechanism, players are encouraged to stick to their respective schedule for generation / drawal from the grid. Any excess invites penalty (at peak linked to cost of diesel generation). However, this mechanism popularly known as Unscheduled Interchange (UI) has evolved into a spot market for power.

NTPC by virtue of being the most efficient & the largest generator as well, is a beneficiary as it can supply more power when the grid is short (UI rate is high). We estimate this incentive to have contributed 11.3% to FY06 PAT.

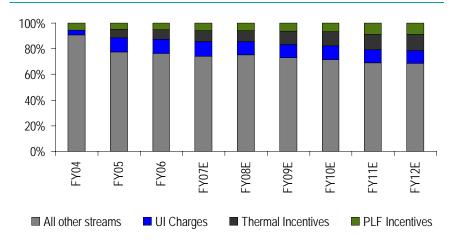
Table 13: Sensitivity	Of III and Dlant I	oof Eactor (DLE)	Incontino
Table 13: Sensilivity	OI OI and Plant I	oal Factor (PLF)	incentive

FY07E	FY08E	FY09E
7.79	9.54	10.36
13.74%	15.52%	15.49%
7.87	9.63	10.47
1.09%	1.03%	1.08%
13.89%	15.66%	15.63%
14	14	14
7.86	9.62	10.46
0.88%	0.90%	0.99%
13.86%	15.64%	15.62%
12	12	13
	7.79 13.74% 7.87 1.09% 13.89% 14 7.86 0.88% 13.86%	7.79 9.54 13.74% 15.52% 7.87 9.63 1.09% 1.03% 13.89% 15.66% 14 14 7.86 9.62 0.88% 0.90% 13.86% 15.64%

Efficiency-Linked Incentives

Given its highly efficient O&M practices, NTPC also earns efficiency-linked incentives like production linked incentives (more than 80% Plant Load Factor) and fuel cost savings. We estimate that these incentives combined have contributed 12.4% to FY06 PAT.

Chart 14: Incentive Contribution to Total PAT

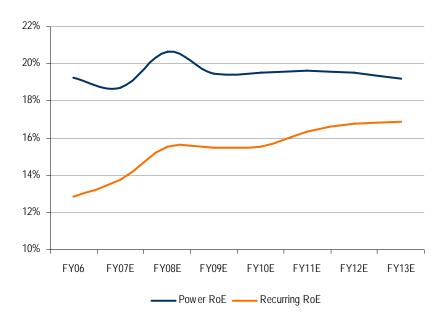


Source: Merrill Lynch Research

Value-Accretive Capex

Given a secure payment mechanism at its disposal, we strongly support increase in power capex at NTPC. This is because we believe that incremental power capex would be value accretive as it helps convert low yielding (5%) cash surplus into high yield power assets, which can potentially generate high RoE (14%+) through capital base. (See chart 15.)

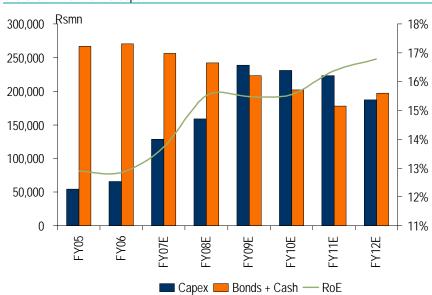
Chart 15: Power RoE vs. Recurring RoE



Source: Merrill Lynch Research

We expect the company to announce further capacity expansion plans to utilize cash, which could take its capacity to well above 50GW (v/s current stated 50 GW) by FY12E.

Chart 16: NTPC: RoE vs Capex



Key Challenges/Risks

- NTPC has surplus cash/equivalents of Rs277.7bn (US\$6.2bn) and given that 40% of its networth is locked in power bonds, deflates its reported RoE.
- Earnings growth in FY09 is expected to be slow until most of the capacity expansion kicks-in from end-FY09E.
- Pressure from states to reduce spot market premium (UI rates are much higher than normal rates) on power; this could pose a concern.
- Gas supply has been an issue for NTPC for existing and new projects. NTPC contracted gas from private gas fields at high price (US\$2.97/mmbtu) to supplement the low priced APM gas (US\$1.8/mmbtu) for its Kawas & Gandhar stations. However, that deal has run into legal battle. We still believe that the project would indeed happen as a) NTPC has a strong case v/s Reliance and b) likely acceleration in gas availability in India post-2008. Our belief is based on following scenarios. As evident from Table 14, in the worst case scenario also NTPC should be able to implement this project either through gas from other vendors such as GSPC or convert the capacity into coal based projects.
- NTPC has also been facing problems with sourcing gas at its Kayamkulam project. We have also factored-in delay in commissioning of Kawas & Gandhar expansion by a year due to delay in gas availability.

Table 14: Options for Kawas Gandhar projects

	· · · · · · · · · · · · · · · · · · ·	
Scenario Outlook		Likely variable cost &
		commissioning date
I	NTPC gets gas from RIL at US\$2.97/mmbtu	Rs1.05 / 2Q FY09
II	NTPC gets gas from GSPC / Other suppliers at US\$4.5/mmbtu	Rs1.59 / 2H FY09
Ш	NTPC does not get gas at all and replaces this project with	Rs0.80 / 2H FY10
	equivalent coal project	

Source: Company, Merrill Lynch Research

Most of NTPC's coal plants are operating at higher-than-targeted PLF as per coal linkage. This has resulted in shortage of coal at 4 locations. NTPC would be meeting the shortage through import of 2-5mmtpa of coal in FY07. However, coal stocks with NTPC are now at comfortable levels with 3QFY06-

end stock of 5mt.

The company faces a future payment risk following resurfacing of free power supply to agricultural customers as a populist measure by a few states.

- Upstream Oil Investments: NTPC in JV with GasPatrol, France & Canoro of Canada has bid for an oil & gas exploration block in north-east India. As is the case with any upstream venture, there exists a risk of no discovery. We estimate NTPC to invest less than US\$50mn in upstream venture until the confirmation of discovery. We also take comfort in the fact that both NTPC's JV partners are experienced upstream players with presence in north-east India.
- Likely entry into Nuclear power.

Financials

Table 15: Operating Statistics

Year End Mar31	FY06	FY07E	FY08E	FY09E
Coal (MW)	19,980	23,895	25,715	28,685
Gas (MW)	3,955	3,955	3,955	6,667
Hydel (MW)	0	0	0	600
Own Capacity	23,935	27,850	29,670	35,952
JV (MW)	314	636	1,535	1,535
Total Capacity (MW)	24,249	28,486	31,205	37,487
Overall PLF %	81.5%	80.2%	83.4%	75.6%
Total Gross Generation (MU)	170,881	195,561	216,758	238,082
Source: Company, Merrill Lynch Research				

Table 16: NTPC	 Profit and 	Loss Sta	tement
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Year End Mar31 (Rs mn)	FY06	FY07E	FY08E	FY09E
Total Operating Income	260,977	306,636	364,568	431,360
Fuel	163,947	195,130	227,095	259,413
Employee Remuneration & Benefits	9,684	10,749	12,125	14,320
Repair & Maintenance	7,874	8,795	10,440	12,340
Administration, Other overhead Expenses & Provisions (Net)	5,204	5,985	7,104	8,389
Rebate under one time settlement	8,047	0	0	0
Discount on sales (@1% of Electricity sales)	0	4,062	3,451	4,084
EBITDA	66,221	81,914	104,354	132,813
Margin%	25.4%	26.7%	28.6%	30.8%
Depreciation & Amortization	20,477	26,999	32,070	45,543
EBIT	45,744	54,915	72,283	87,270
Margin%	17.5%	17.9%	19.8%	20.2%
Interest & Finance Cost	12,054	14,018	18,420	24,851
Other income	9,653	10,786	13,664	12,680
Interest on Bonds	16,877	14,691	13,145	11,598
Prior Period & Extra Ordinary Items	(2,488)	0	0	0
PBT	57,732	66,375	80,672	86,698
Total Tax	2,022	2.157	2.050	1,268
Recurring PAT	55,710	64,218	78,623	85,430
noodining 1711	55,110	01,210	70,020	55,450
Other Extraordinary Adjustments	2,492	2,250	2,273	2,295
Reported PAT	58,202	66,468	80,895	87,725

Table 17	: NTPC-	Balance	Sheet

Tubio 17: It ii o Dalarioo Orioot				
Year End Mar31(Rs mn)	FY06	FY07E	FY08E	FY09E
Cash and Bank Balances	88,704	92,639	96,920	95,711
Sundry Debtors	8,678	15,104	17,966	21,257
Inventories	23,405	25,879	30,161	34,538
Loans and Advances	30,287	34,016	38,736	43,790
Other Current Assets	10,008	15,899	18,912	22,376
Total Current Assets	161,082	183,538	202,695	217,673
Other Investments	7,122	10,984	21,778	21,778
Bonds	181,932	163,739	145,546	127,352
Gross Block	460,396	590,831	687,428	936,921
Accumulated Depreciation	(229,501)	(256,500)	(288,570)	(334,113)
Net Block	230,895	334,332	398,858	602,809
CWIP	103,999	100,067	160,573	147,935
Construction Stores in Progress	32,341	33,958	35,656	37,439
TOTAL ASSETS	717,371	826,617	965,105	1,154,985
0		74.007		05.000
Current Liabilities & Provisions	61,402	71,887	83,780	95,939
Secured Loans	57,327	138,713	234,814	377,132
Unsecured Loans	144,646	126,565	113,909	102,518
Total Loans	201,973	265,279	348,723	479,649
Deferred Tax Liability	1	1	1	1
Advance against depreciation	4,408	4,408	4,408	4,408
Development Surcharge Fund	0	0	0	0
Total Liabilities	267,784	341,575	436,912	579,998
Share Capital	82,455	82,455	82,455	82,455
Reserves & Surplus	367,132	402,587	445,738	492,533
Net Worth	449,587	485,042	528,193	574,988
TOTAL LIABILITIES + NETWORTH	717,371	826,617	965,105	1,154,985

Source: Company, Merrill Lynch Research

Table 18: N	ITPC - Cash	Flow Sta	itement
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Year End Mar31(Rs mn)	FY06	FY07E	FY08E	FY09E
PAT	58,202	66,468	80,895	87,725
D&A	20,477	26,999	32,070	45,543
Change in Debtors	5,069	(6,426)	(2,862)	(3,291)
Change in Inventories	(5,586)	(2,474)	(4,282)	(4,377)
Change in Loans and Advances	(3,294)	(3,729)	(4,720)	(5,054)
Change in Other CA	(381)	(5,891)	(3,013)	(3,464)
Change in CL & Provisions	(6,065)	10,485	11,893	12,159
Change in Working Capital	(10,257)	(8,035)	(2,983)	(4,028)
Cash Flow from Operations	68,422	85,431	109,982	129,240
Capex	(65,312)	(128,120)	(158,801)	(238,638)
Change in Investment	(8,156)	14,331	7,400	18,193
Others	1,034	0	0	0
Cash Flow from Investing	(72,434)	(113,789)	(151,401)	(220,445)
Change in Equity	0	0	0	0
Change in Reserves	(53)	0	0	(0)
Change in Debt	31,095	63,306	83,444	130,927
Dividend & Dividend Tax	(26,325)	(31,013)	(37,744)	(40,931)
Cash Flow from Financing	4,717	32,293	45,700	89,996
Inc/Dec in Cash	705	3,935	4,281	(1,209)
Opening Cash	87,999	88,704	92,639	96,920
Closing Cash	88,704	92,639	96,920	95,711

Table 19: NTPC - Key Ratios & Valuations

FY06	FY07E	FY08E	FY09E
6.76	7.79	9.54	10.36
8.9%	15.3%	22.4%	8.7%
9.24	11.06	13.42	15.88
2.80	3.31	4.02	4.36
54.53	58.83	64.06	69.73
22.3	19.4	15.8	14.6
16.3	13.6	11.2	9.5
1.9%	2.2%	2.7%	2.9%
2.8	2.6	2.4	2.2
15.4	13.4	11.3	10.2
(75,785)	(2,083)	84,479	234,808
12.85%	13.74%	15.52%	15.49%
122%	117%	109%	98%
18%	18%	20%	20%
41.8%	43.5%	44.6%	44.5%
144%	151%	161%	176%
8.88%	9.31%	10.51%	10.30%
0.45	0.55	0.66	0.83
0.25	0.36	0.48	0.67
17	19	19	19
42	45	45	45
14	20	20	20
133	125	125	125
41.0	38.4	39.2	37.0
	6.76 8.9% 9.24 2.80 54.53 22.3 16.3 1.9% 2.8 15.4 (75,785) 12.85% 122% 18% 41.8% 144% 8.88% 0.45 0.25 17 42 14 133	6.76 7.79 8.9% 15.3% 9.24 11.06 2.80 3.31 54.53 58.83 22.3 19.4 16.3 13.6 1.9% 2.2% 2.8 2.6 15.4 13.4 (75,785) (2,083) 12.85% 13.74% 122% 117% 18% 18% 41.8% 43.5% 144% 151% 8.88% 9.31% 0.45 0.55 0.25 0.36 17 19 42 45 14 20 133 125	6.76 7.79 9.54 8.9% 15.3% 22.4% 9.24 11.06 13.42 2.80 3.31 4.02 54.53 58.83 64.06 22.3 19.4 15.8 16.3 13.6 11.2 1.9% 2.2% 2.7% 2.8 2.6 2.4 15.4 13.4 11.3 (75,785) (2,083) 84,479 12.85% 13.74% 15.52% 122% 117% 109% 18% 18% 20% 41.8% 43.5% 44.6% 144% 151% 161% 8.88% 9.31% 10.51% 0.45 0.55 0.66 0.25 0.36 0.48 17 19 19 42 45 45 14 20 20 133 125 125



Price Objective Basis & Risk

Our PO of Rs180 is based on 10% discount to our DCF valuation (assuming a WACC of 10.3% and a terminal growth rate of 2%) led by higher capacity, utilization rates & efficiency gains on the back of increased fuel security.

Risks: Gas supply to existing / new plants till 2008, Upstream Oil Investments & power reforms, entry into nuclear power.

Analyst Certification

I, Bharat Parekh, hereby certify that the views expressed in this research report accurately reflect my personal views about the subject securities and issuers. I also certify that no part of my compensation was, is, or will be, directly or indirectly, related to the specific recommendations or view expressed in this research report.

Special Disclosures

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iQmethod[™] Measures Definitions

Business Performance Numerator Denominator

Return On Capital Employed NOPAT = (EBIT + Interest Income) * (1 - Tax Rate) + Goodwill Total Assets - Current Liabilities + ST Debt + Accumulated Goodwill

Amortization Amortization Shareholders

Return On Equity Net Income Shareholders' Equity
Operating Margin Operating Profit Sales

Earnings Growth Expected 5-Year CAGR From Latest Actual N/A
Free Cash Flow Cash Flow From Operations – Total Capex N/A

Quality of Earnings

 Cash Realization Ratio
 Cash Flow From Operations
 Net Income

 Asset Replacement Ratio
 Capex
 Depreciation

 Tax Rate
 Tax Charge
 Pre-Tax Income

 Net Debt-To-Equity Ratio
 Net Debt = Total Debt, Less Cash & Equivalents
 Total Equity

Interest Cover EBIT

Valuation Toolkit

Price / Earnings RatioCurrent Share PriceDiluted Earnings Per Share (Basis As Specified)Price / Book ValueCurrent Share PriceShareholders' Equity / Current Basic Shares

Dividend Yield Annualised Declared Cash Dividend Current Share Price

Free Cash Flow Yield Cash Flow From Operations – Total Capex Market Cap. = Current Share Price * Current Basic Shares

Enterprise Value / Sales EV = Current Share Price * Current Shares + Minority Equity + Net Debt + Sales

EV / EBITDA Enterprise Value Basic EBIT + Depreciation + Amortization

iQmethod swis the set of Merrill Lynch standard measures that serve to maintain global consistency under three broad headings: Business Performance, Quality of Earnings, and validations. The key features of iQmethod are: A consistently structured, detailed, and transparent methodology. Guidelines to maximize the effectiveness of the comparative valuation process, and to identify some common pitfalls.

Interest Expense

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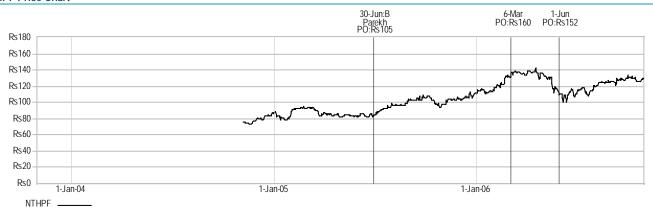
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Important Disclosures

NTHPF Price Chart



B: Buy, N: Neutral, S: Sell, PO: Price objective, NA: No longer valid

The Investment Opinion System is contained at the end of the report under the heading "Fundamental Equity Opinion Key". Dark Grey shading indicates the security is restricted with the opinion suspended. Light Grey shading indicates the security is under review with the opinion withdrawn. Chart current as of October 31, 2006 or such later date as indicated.

Investment Rating Distribution: Utilities Group (as of 30 Sep 2006)

Coverage Universe	Count	Percent	Inv. Banking Relationships*	Count	Percent
Buy	53	43.80%	Buy	27	50.94%
Neutral	56	46.28%	Neutral	27	48.21%
Sell	12	9.92%	Sell	5	41.67%
Investment Rating Distribution: Global Gr	oup (as of 30.9	Sep 2006)			
invosation reading bistribution. Clobar Cr	oup (40 0. 00 t				
Coverage Universe	Count	Percent	Inv. Banking Relationships*	Count	Percent
			Inv. Banking Relationships* Buy	Count 434	Percent 32.75%
Coverage Universe	Count	Percent	3		
Coverage Universe Buy	Count 1325	Percent 44.76%	Buy	434	32.75%

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