

Technical Guide

**Systems Audit of
Stock Brokers CTCL**



Committee on Information Technology
The Institute of Chartered Accountants of India
(Set up by an Act of Parliament)
New Delhi

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Foreword

It is a matter of immense pleasure for me to note that that the Committee on Information Technology of the Institute has come out with this excellent Technical Guide on System Audit of Stock Brokers CTCL facility to enable ISA Members to offer IS Audit Services, which are mandatory for NSE Stock Brokers and recommendatory for BSE Stock Brokers.

On a review of the contents, I note that these materials take the readers from A to Z of the Systems Audit of Stock Brokers – Offer Letter giving the scope of audit, to the processes/ procedures to be followed till the draft audit report formats, apart from a ready compilation of NSE and BSE Circulars issued till the date of developing this guide.

I am sure that ISA Members would be immensely benefited by this Technical Guide and would be able to offer Value Added Services of Systems Audit to their clients. In fact, the contents would also be useful to them to undertake systems audit of other similar applications, as the processes/ procedures/ audit reports demonstrated in these materials are also applicable for other applications.

I am sure that this initiative would empower the ISA qualified members to enhance their professional offerings.

I compliment the Committee on Information Technology for this excellent initiative.

CA. Uttam Prakash Agarwal
President, ICAI

Place: New Delhi
Date: February 23, 2009

Preface

The Committee on Information Technology has great pleasure in releasing this Technical Guide on Systems Audit of Stock Brokers CTCL facility which aims to appraise the ISA members on this professional opportunity and to empower them to offer value added services in this field.

I am very thankful to CA. Bhavesh Vora and his team consisting of CA. Hiren Mehta, CA. Jimmy Sheth and Mr. Milind Kamat for contributing the basic content of this Technical Guide and CA. Bimal Doshi for reviewing the content and offering useful suggestions to make it more useful.

I have great pleasure in acknowledging my thanks and gratitude to CA. Ved Jain, Past President and CA. Uttam Prakash Agarwal, President for their wholehearted support and guidance in coming out with this path breaking initiative. I am indeed very grateful to CA. Atul C. Bheda, the preceding chairman, for starting this very useful initiative for the benefit of ISA Members. I profoundly thank Council Members and Members of the Committee on Information Technology for their valuable suggestions and support in launching this technical guide. Last, but not the least, I thank Mr. K. Venkata Ramana, Secretary, Committee on Information Technology, Mr. Ravi K. Arora, Jt. Director and the Committee Secretariat for their utmost dedication and untiring efforts to plan and present before you, this highly useful technical guide.

I am sure that the ISA members would be immensely benefited from this initiative. I may also add that this guide has been developed as a useful resource based upon information available at the time of development; members are expected to regularly update themselves on the NSE and BSE requirements and technological developments. Last, but not the least, members are expected to suitably update their procedures and reports etc., based upon specific requirements of assignments.

Place: New Delhi
Date: February 23, 2009

CA. K. Raghu
Chairman
Committee on Information Technology

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1.1 Introduction

The Information Technology Committee has been established by the Institute to convert IT Challenges into gainful opportunities for the profession through education and training programmes, Seminars/ Conferences/ Workshops, E-Learning/ Computer Based Training Modules, Learning Resources, Practice Guides.

1.2 IT Committee Initiatives

The Committee has started the following initiatives for the benefit of members to develop in the IT Area and offer value added services to their clients, apart from enhancing the efficiency and effectiveness of their operations:

- a. Post Qualification Course on Information Systems Audit
- b. ERP Courses through leading ERP Vendors: SAP FICO, Oracle 11i Financials and Microsoft Dynamics NAV.
- c. CPE Course on CAAT
- d. Practical Workshops
- e. CAAT Resources CD
- f. E-Learning/ Computer Based Training CD on Using CAATs/ GAS
- g. Technical Guide on IS Audit

Further details of these initiatives are available at www.ica.org and <http://isa.ica.org>.

This initiative has been started considering the demand from ISA qualified members to provide the initial hand-holding to enable them to practice in this emerging area.

1.3 Business Advisory Services (BAS)

The IT Committee has identified IS Audit, ERP Consulting and Business Consultancy/ Advisory Services in Accounting/ Finance/ Taxation and allied areas as the thrust area for development of the profession in IT area, as these are value added services in increasing demand by the day. Further details of these initiatives are available at www.icai.org under members – courses. You are welcome to contact the Committee Secretariat at the following address for further details/ assistance:

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1.4 Systems Audit of Stock Brokers

The latest initiative of the IT Committee is to offer an exposure to Systems Audit of Stock Brokers through workshops and Technical Guides thereof. This initiative aims to empower ISA Qualified members to offer value added services for Stock Brokers in particular and others in general. The following chapters/ sections would be providing you the requisite details of this initiative and how you can make a better use of the same.

It is required to be understood that the terminology used by NSE is CTCL and by BSE is IML (INTERMEDIARY MESSAGE LAYER). But conceptually, the prospective for both is to audit CTCL (Computer to Computer Link) facility used by the member broker.

2.1 Recent Developments

In recent days, Indian Stock Exchanges are witnessing high volumes on capital market segment and also on derivatives market segment. Two major exchanges i.e. The National Stock Exchange of India (NSE) and Stock Exchange, Mumbai (BSE) are on global radar. Investors from all across the globe are attracted to Indian Stock Exchanges. Transparency and Technology are the key drivers for this spurge. With this, activities like e-Trading, information rich websites; customer advice & support centers are getting integrated to the core business of trading.

Day by day various laws, rules, regulations framed by Regulators such as SEBI, RBI, NSE, BSE, etc. are aligning with international standards & compliances norms. Some of the new laws are getting framed while some are getting challenged in the new environment. Due to this, earlier the areas of specific departments have become a point of repeated discussions at Boardroom level. With this, trading, houses are entering a new era of running their business.

For variety of reasons like speed, mobility, automation, volume, authenticity, etc., the industry has moved towards technology-centric work environment. Security trading, today, involves most of the advanced technologies like Extranet, VSAT, large databases, database mining, call centers and On line Trading. So, risk management ability of that technology-centric infrastructure has become yet another critical factor for business success. The government and regulatory bodies, like other business aspects, are trying to exercise control over this part also.

The new way of running business is just not dependent on technological solution. But, demands a strong combination of business goals, policies, procedures and technologies. The necessary framework of risk management must be built upon leading practices, accepted standards and applicable laws to provide a sustainable progress. Globalization is yet another factor for creating substantial responsibilities and the need for professionals with multidisciplinary expertise.

Systems Audit of Stock Brokers CTCL

Stock Exchange & its members is a closed user group. Most of the time, closed network (point to point leased line & VSAT) is used for communication. On the contrary, for the ease of connectivity of trading users, broker members offer connectivity options like internet, dial-up and wireless networks. Thus, the risk probability increases significantly.

Hence, trading houses have to adopt the new way of running the stock broking business under the IS environment. During this challenging time, members of Institute also should adapt successfully and lead by example.

2.2 Systems Audit Requirements of Stock Broking Industry

Stock Exchange offers a facility to its trading members (Registered members of the Stock Exchange) by which members can use their own trading front-end software in order to trade. This facility called Computer-to-Computer Link (CTCL) facility is available only to trading members of the Exchange.

Members can procure the CTCL software either from software vendors who are empanelled with the Exchange or they may develop the software through their own in-house development team or may procure the software from other non-empanelled vendors.

As a part of ongoing compliance requirement, trading member of the Exchange using CTCL and Internet based trading facility need to undergo a regular audit of their systems. The audit shall be conducted for the purpose of and with an objective of identifying the system inadequacies / deficiencies, if any, based on compliance requirements and implications of such inadequacies. The system audit certificate is required to be obtained from a person holding certificate from D.I.S.A. (ICAI) or equivalent, independent of the empanelled vendors of the Exchange and/or partners/Directors of the Trading Members.

2.3 Scope of the Technical Guide

This Technical Guide aims to assist the auditor in conducting the system audit for Members of the Stock Exchanges with the special reference to audit requirement for CTCL based Trading Facility. The general principles of conducting an audit in financial statements are laid down in Auditing and Assurance Standard (AAS), Guidance Notes and other relevant pronouncements issued by the Institute of Chartered Accountants of India are also applicable to the Audit to be conducted in IS environment.

This Guide places emphasis on the specific aspects to be examined by the auditor while conducting a System Audit for CTCL Trading a facility used by Members of the Stock Exchanges. The Auditor is assumed to have reasonable knowledge about the relevant rules and regulations of the Stock Exchange & clearing house and important aspects of their functioning.

2.4 Objective of this Guide

CTCL Audit involves a review of controls in Information Technology, Security and trading processes. This document is not intended to reduce or limit the scope of CTCL based trading facility, CTCL application and the controls discussed herein.

The objective of this document is to provide a guidance to auditors to assist in understanding and auditing CTCL based trading facility in connection with assessing and reporting the effectiveness of the internal controls as per the guideline issued by the Exchange. Secondly, it enables to plan quality audit reporting.

3.1 Capital Market Segment

Capital Market segment enables Members of the Stock Exchanges to trade in equities segment. A Member of the Stock Exchanges can transact business on Stock Exchange either on his behalf or on behalf of his clients or sub-brokers. The relationship between the client and the Members of the Stock Exchanges is of a fiduciary nature. The client has to register with the Members of the Stock Exchanges before entering into transactions. Orders placed by clients are put on Trading Terminals / CTCL Terminals. Orders are first numbered and time-stamped on receipt and then immediately processed for potential match. Trades entered into on Stock Exchanges are either squared up or settled by payment of net cash and delivery of net securities on a predetermined settlement date. The securities and funds are paid-in and paid-out on the day of settlement.

Eg: NSE also operates on the 'National Exchange for Automated Trading' (NEAT) system, a fully automated screen based trading system, which adopts the principle of an order driven market.

NSE operates the following sub-segments in the Equities segment:

- 1) Rolling Settlement
- 2) Limited Physical Market
- 3) Institutional Segment
- 4) Trade for Trade Segment

3.2 Futures & Options (F&O) Segment

Futures & Options are two popular products of Derivatives presently traded on the Exchange.

Trading Patterns

The word 'Derivative' originates from mathematics and refers to a variable, which has been derived from another variable. The term derivative indicates that it has no independent value and its value is entirely derived from the value of the underlying asset. The contracts on Derivatives are specialized contracts entered in cash or spot markets the settlement of which is deferred on some future date. The value of contract depends on time factor and also on the price of underlying asset, which is an essential ingredient of derivative contract. As per SCRA, Derivatives are securities and hence, the regulatory framework under the SCRA governs the trading of derivatives.

A future contract is an agreement between two products to buy or sell an asset at a certain time in the future at a certain price. Future contracts are special types of forward contracts in the sense that the former are standardized exchange-traded contracts.

Options are of two types – calls and puts. Calls give the buyer the right but not the obligation to buy a given quantity of the underlying asset, at a given price on or before a given future date. Puts give the buyer the right, but not the obligation to sell a given quantity of the underlying asset at a given price on or before a given date.

A client can trade in Futures & options only through a trading member of the Exchange. The process of trading is similar to screen based trading in securities on Capital Market Segment. At present, at any day three months contracts are traded, which are settled on last Thursday of the month depending on its expiry. All contracts are cash settled. There is a mechanism of daily settlement based on mark-to-market margin.

Screen Shot of NSE Cash Segment, NSE F&O Segment & BSE Cash Segment CTCL Terminal:

Systems Audit of Stock Brokers CTCL

ForClientType 153827 NSE:3195.25 (+79.10) BSE:10928.26 (+313.91) - [Teachline - NSE BSE]

Trade | Outline | Graphics | View | Triggers | Backup | Downloads | Tools | Window | Help

NSE 3195.25 ↑ 79.10
BSE 10928.26 ↑ 313.91

NSE BSE

NSE ShortName	NSE Bid	NSE Buy Qty	NSE Offer	NSE Sell Qty	NSE LTP	NSE Net Change	BSE Inst.Code	BSE ShortName	BSE Bid	BSE Buy Qty	BSE Offer	BSE Sell Qty	BSE LTP	BSE t Char
AMERICADRY					6.60		519183	ADFFOODQ	N	21.55	100	22.75	160	22.50
ADLABSPILM	253.00	68	253.45	25	253.00	-0.37	532399	ADLABSPILM	N	252.10	27	254.95	10	254.90
ADORWELD	383.00	49	385.00	2	386.00	-0.32	517041	ADORWELDINGN	N	381.00	10	383.95	25	384.00
AFTERINFO	49.75	350	49.90	1790	49.90	1.22	530707	AFTERINFO	N	49.65	4000	49.70	400	49.65
ATAENG	608.05	10	611.95	115	608.05	-0.82	532683	ATAENG	N	607.00	30	614.90	9	608.00
ALBK	56.35	442	56.50	1017	56.50	-1.91	532747	AIRDEGAN	N	79.00	300	79.25	364	79.40
							532480	ALLBANK	N	56.40	100	56.60	130	56.60
							532749	ALLCARGO	N	652.00	526	653.80	10	652.00
							511589	ALLIANTZC	N	23.80	22	24.15	110	23.70
							531400	ALLIANTZS	N	22.90	422	23.45	100	22.90
ALORTEXT	57.00	688	57.50	1785	57.50	3.32	521070	ALORIND	N	57.30	100	57.65	1875	57.65
ALPSINDUS	98.05	454	98.10	100	98.05	2.30	530715	ALPSIND	N	97.65	500	98.00	50	98.15
							513309	ALUMECO	N	28.30	100	28.90	200	28.90
ANAR	58.30	480	58.50	605	58.50	-1.43	532664	ANAR	N	58.35	250	58.60	3008	58.35
							531978	AMIRCO	N	178.30	15	182.90	19	182.90
ANTEKAUTO	274.40	50	274.90	100	274.90	-2.85	520077	ANTEKAUTO	N	274.05	500	274.80	100	274.00
ANDBRABANK	60.35	2267	60.40	100	60.45	0.50	532418	ANDBRABANK	N	60.65	210	60.75	500	60.65
							530721	ANGAUTO	N	297.95	310			297.95
ANSALINFRA	431.95	16122			431.95	5.00	500013	ANSALINFRA	N	431.75	8697			431.75
APOLLOROSP	405.00	30	406.50	171	406.50	1.26	508869	APOLLOROSP	N	405.25	25	407.80	5	405.00
CECALSTROM					24.80		522275	AREVA	N	534.00	220	535.00	6	535.00
ASHOKLEY	35.35	322	35.40	6455	35.35	-1.94	500477	ASHOKLEY	N	35.50	30000	35.55	2113	35.55
ASSANCO					22.25		500024	ASSANCO	N	20.60	400	20.80	500	20.60
ASTRANICRO	200.05	150	200.10	25	200.05		532493	ASTRANIC	N	200.05	543	201.00	6454	201.00
ATUL	108.55	25	110.25	44	108.50	-4.24	500027	ATULLTD	N	109.00	100	109.60	25	109.00
AUROPHARMA	608.20	25	608.50	20	608.15	2.74	524604	AUROINDOP	N	608.00	161	608.40	13	608.00

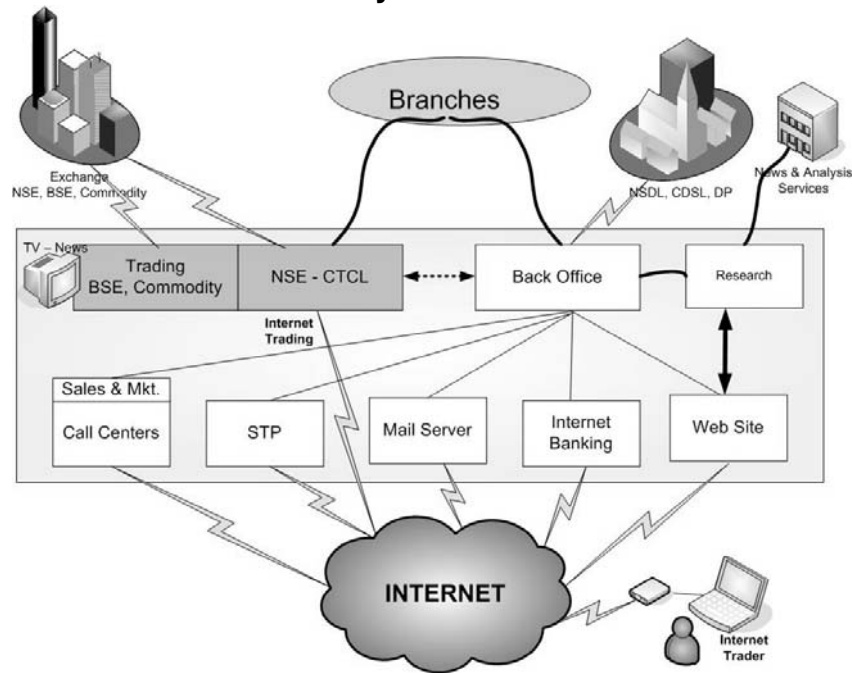
BC 27/10/2005 09:01/2005 Ex: / / BSE

User: 1 Wednesday, July 12, 2006 15:36:26

Start National Stock Exchange... 3:38 PM

SDG Software – (NSE, FNO & BSE)

4.1 Total Information Systems



4.2 General IS System Diagram Explanation

The above diagram reflects the architecture of the business activities of the members of the Stock Exchanges. The business activity involves dealing with financial institutions, clients, sub-brokers, exchanges & regulators. A different organization specifies their own connectivity requirements and IS environments. Business intelligence and analysis feeds may also require another set of connectivity. To run the business activities like accounts, Customer support, Sales & Marketing, etc. demand a suitable infrastructure. Various software packages interconnect and co-relate the information & data.

Systems Audit of Stock Brokers CTCL

Trading Facility: Trading room provides a facility to trade securities for the certified user i.e. the user may get connected to desired Exchange also with the help of a CTCL terminal by entering unique user name & password.

Internal Network: It is desirable to have two separate networks, one for the trading and another for the back office operations. This is to define & isolate close-user from the threats arising due to other activities and technologies.

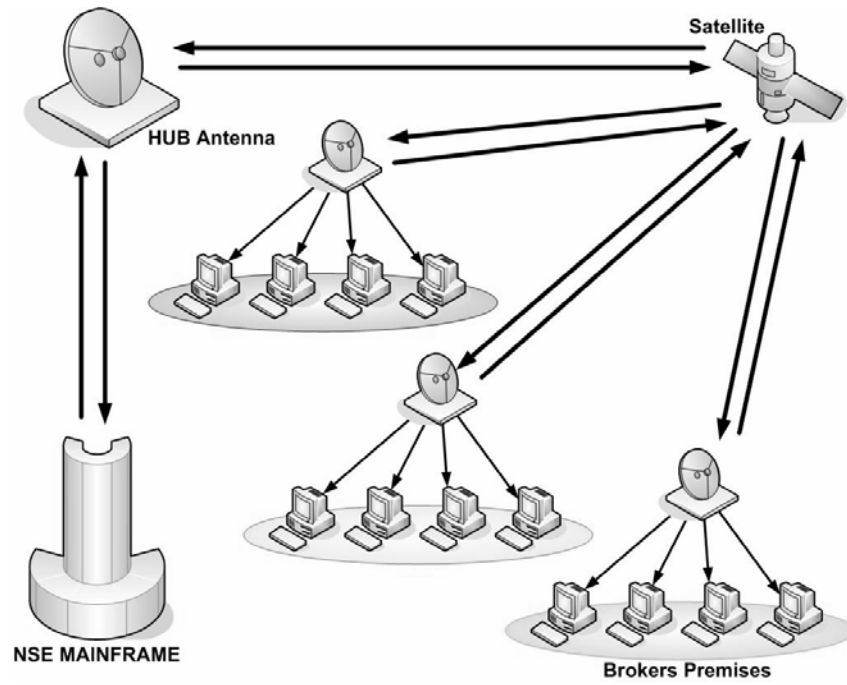
Internal LAN back office network has various servers supporting activities of Admin, Accounts, Research, Sales & Marketing etc. The network size depends on the nature and volume of business and the customer support services offered by each Members of the Stock Exchanges.

Branch Connectivity: CTCL Facility can be extended to other branches either with the help of VSAT or Leased Lines. For the operations of Back Office and other departments, Internet or separate links are used.

Business Support Feeds: For providing support and value added services to the customers, external services can be hired or outsourced. Industry analysis, political news, financial news and variety of information are made available through TV, internal research, Website etc. The information from various agencies is directly uploaded, displayed or is further processed by the internal departments before display. The infrastructure would change according to the activities conducted.

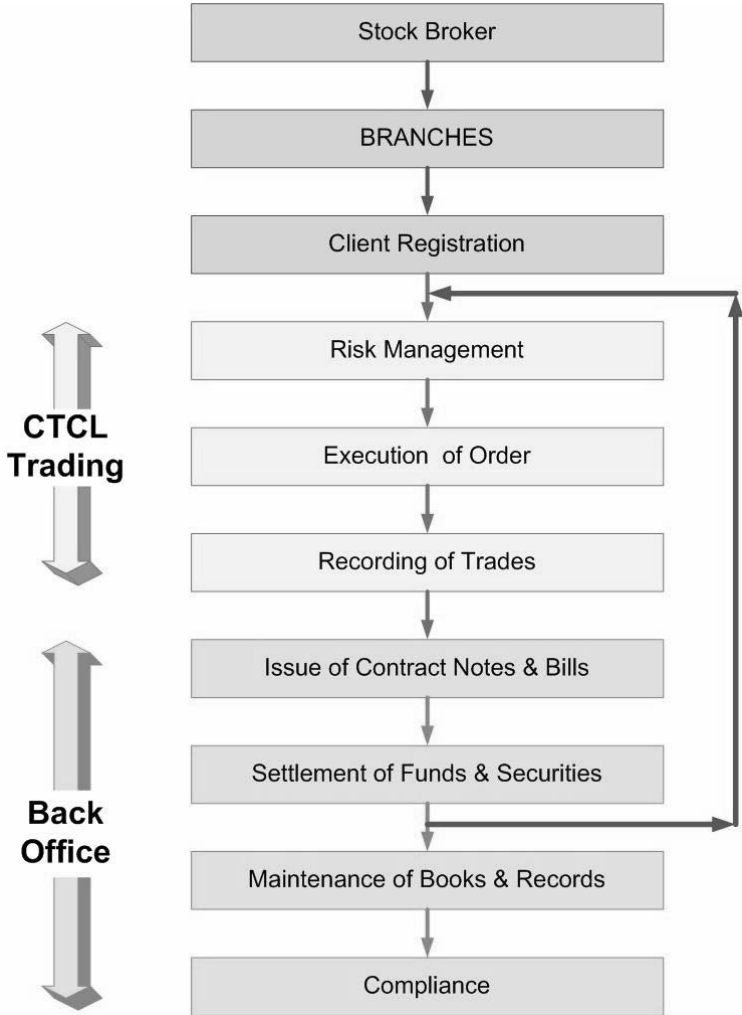
Sales & Marketing department may offer services like in-bound telecalling, customer care, web accesses, etc. To support these activities, suitable technologies, devices and interlinking software packages are used.

4.3 NSE Trading Network



The above diagram reflects the trading network of NSE.

4.4 Stock Broking Activities - Flow Chart



5

CTCL Trading Facility

5.1 Background

NSE trading system is called National Exchange for Automated Trading (NEAT). The NEAT system supports an order driven market, where orders match on the basis of time and price priority. NEAT Trading Terminal Facilities were mainly based on VSAT links. In earlier days, leased lines to all the locations were either not available or involved long waiting periods. VSAT links were necessary and demanded bigger scales of investments at every location. For better returns on the VSAT investment made, the concept was developed to extend the trading facilities within a city with the help of leased lines. In late 90's, concept of CTCL facility was developed as an extension to NEAT Terminal facility. The CTCL software developed provided ease of expansion and also integrated the required controls limits on each terminal.

On the basis of the specification given by NSE, there are two main categories of CTCL software under use. One type is called empanelled vendors. This category provides software solutions certified by NSE. The vendor has liberty to design internal architecture, so long as it delivers the specifications led down by NSE. Other type is non-empanelled software solutions, which mainly include mainly multinational companies. These companies are using their own standard software packages, but have developed interfaces to interact with NSE.

5.2 Obtaining CTCL Approval

Membership is granted after completing the process. All the necessary information related to location, users, branches etc. is recorded and appropriate permissions are granted in the form of licenses.

Exchange has empanelled tested software solutions. Every new version released meets the specification of the Exchange. The vendor has liberty to provide own architecture and extra features.

Though CTCL enables ease of expansion, it is to be done ONLY in accordance with the Exchange Circulars. Details of each user need prior approval from the Exchange.

Systems Audit of Stock Brokers CTCL

Only Exchange approved users with necessary certification are authorized to operate the trade terminal.

From time to time, Exchanges issue additional circulars to enhance the security measures.

5.3 Object of CTCL Audit

The Exchanges have prescribed the requirement for Systems Audit of Members of the Stock Exchanges in an effort to protect the interests of the investors in stock market by securing transactions & corresponding data.

Exchanges desire to maintain the reliable, dependable & conducive environment for the investors. As entire CTCL network operations rely heavily on computer & networking technologies, periodic verification of following points is considered necessary:

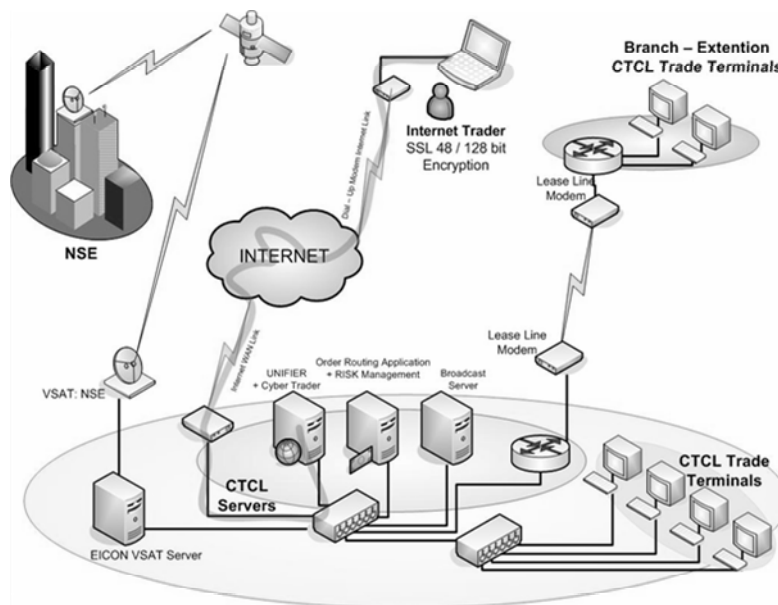
- 1) Regular cross verification of the information available with Exchanges.
 - a) Business location
 - b) CTCL facility details
- 2) Use of authorized software solution & version.
 - a) Verifying the use of approved solution & version
 - b) Difficulties in version change (if any)
 - c) IT infrastructure deployed
- 3) Regular cross verification of complete User details
 - a) Type of User & unique ID created
 - b) Certified users are operating the terminal
- 4) Preparedness for uninterrupted service to the investors
- 5) Compliance to the circulars issued after the last audit cycle.

5.4 Controlling the likely Threats to 'Data Availability'

As an ongoing process, The Exchanges have to remotely manage the risk by maintaining effective control over major threats. Some of the major threats for data availability are:

- 1) Unauthorized Access
- 2) Changes due to business dynamics or technologies
- 3) Device or Link Failure
- 4) Non compliance to NSE Circulars
- 5) Environmental Threats & Disaster
- 6) The tremendous growth of corporate hackers either internal or external
- 7) Internet Threats (for Internet Trading)

5.5 NSE CTCL Trading Facility Diagram



Systems Audit of Stock Brokers CTCL

The market trend changes due to national or international reasons and suddenly the trading activity catches pace. Thus, the infrastructure must be always ready for delivery in response to such extremely bursty traffic conditions. If the system starts deteriorating in speed after some traffic, there may be delay in execution of trades.

Different Trading Activities: One trader may facilitate different trading options like Equity, Futures & Options, Commodity, etc. The environment changes accordingly. Though NSE CTCL is expected to be fairly isolated application, the over all trading business may have its effect on General Controls placed on the network.

Closed User Trading: All CTCL terminals' data flows through VSAT & leased lines only. This type may include one or many locations.

Internet Trading: In this type CTCL terminals' data flows over Internet also.

Business Support Activities: To support the customer type & volume, variety of support activities have to be organized. This may include external services such as website hosting, inbound or outbound call center, live price feeds etc. and also internal services such as Sales & Marketing Team, Research Dept, Accounts dept, IT dept, Compliance Dept and so on.

Software Solution Options: To manage business activities in a smaller organization, single software package may be suitable. But as the number of different activities increases, specialized software solutions may be needed to manage the activity with greater granularity. Thus, the software solutions would vary depending on the each broker and its position on the business roadmap.

Connectivity Options: For closed user group, there are primarily two options: VSAT & Leased line. But for the Internet and branch connectivity many choices are available. ISPs, Telcos, GSM providers and Cable operators are offering many services and newer services like Wimax are expected to be available soon. The Members of the Stock Exchanges have a wide variety of options available and they may change from one branch to another branch.

CTCL Trading Facility

NEAT		12 JUL 2006		15:35:14				
ARURVYSSYA EQ N 29 @ 608.00		KESORAMIND EQ N 499 @ 281.50 ACC EQ N 10 @		S&P CNX Nifty 3195.25 (+79.10)				
UTIBANK EQ N 308		277.50 277.90		8.36.00 ASHOKLEY EQ N 1000 @				
UNITY	EQ N	50	414.55	416.90	17	414.55	-	
UNIVCABLES	EQ N	102	117.25	117.50	100	117.25	-	
USHAMART	EQ N	150	165.10	167.00	550	168.00	+	
UTIBANK	EQ N	308	277.50	277.90	699	277.90	+	
VARUNSHIP	EQ N	1646	67.55	67.60	100	67.55	-	
VENKEYS	EQ N	100	118.70	119.00	50	119.00	-	
VESUVIUS	EQ N	50	255.00	256.00	24	256.00	+	
VIDEODIND	EQ N	10	418.00	419.00	500	419.90	-	
VISUALSOFT	EQ N	605	81.10	81.40	1099	81.10	-	
VSNL	EQ N	31	396.50	397.00	710	397.00	-	
WARTSILA	EQ N	2	286.10	291.00	50	288.00	-	
WELGUJ	EQ N	50	59.75	60.00	1072	60.00	-	
WELSPUNIND	EQ N	200	83.30	83.55	34	83.55	+	
WHEELS	EQ N	19	230.20	232.00	32	230.20	-	
WILLAMAGOR	EQ N	114	51.20	51.50	100	51.50	+	
WIPRO	EQ N	329	516.60	517.00	156	516.60	-	
WOCKPHARMA	EQ N	33	360.00	362.00	2	360.00	-	
WSTCSTPAPR	EQ N	50	376.00	385.00	9	382.00	-	
YESBANK	EQ N	124	78.55	80.00	1209	80.00	-	
ZANDUPHARM	EQ N	1	3185.20	3220.00	8	3220.00	+	
RL	ITC	EQ	7860565	182.40	172.00	181.20	+ 2.95	178.38
2			2300	181.10	181.20	99		4
4			1064	181.05	181.25	105		3
41			5285	181.00	181.30	611		5
1			5	180.95	181.45	599		2
4			38	180.90	181.50	3176		13
Total Buy:			469690		Total Sell:		300318	
15:30:02 MIC:1 The Oddlot market has closed.								
15:30:03 MIC:1 The Retail Debt Market has closed.								

IS Environment in CTCL

6.1 Alternative Environments

The basic options of CTCL environments are described below, however it is not intended to reduce or limit the scope of CTCL based trading facility environments.

Exchange provides two-way communication services to the trading members based on File Transfer Protocol (FTP) connections through VSAT, leased line and Internet. FTP may be used for accessing the data that is general as well as member specific in nature. Under this facility, a separate directory for each member has been created in which member specific data are routinely transferred. Information like trade files, reports, settlement details, etc. are available in a specific directory, which can be accessed by respective trading member.

- 1) **One location:** This type of CTCL Facility is very similar to NEAT Facility. At a bare minimum level, this includes: VSAT, router, CTCL Server, one admin terminal and number of user terminals. In this case, the CTCL is used to expand the number of users only.
- 2) **Multiple locations:** Here CTCL connectivity of the main facility is extended to other locations. Only VSAT and point-to-point leased lines are used for interconnecting branches. Each additional location can have multiple terminals. Details of all such users & locations need to be informed to the Exchanges prior to activation.
- 3) **Internet Trading Channel:** Exchange has approved the use of Internet as an Order Routing System for communicating clients' orders to the Exchanges through brokers. With this, the client can place the orders with his broker and have control over the information and quotes and can hit the quote on-line. Once, broker's system receives the order, it checks for the authenticity of Client electronically and then routes the order to appropriate Exchange.

CTCL Trading Facility

Making use of this, some traders operate through online and offline channels. The online structure forms the most integral point for business and transactions. The online component is made up of a conventional portal, a chat facility and a few trade terminals.

For online trade, clients gain a better and more efficient platform for transactions. It has a terminal at the user end, connected to broker's systems through a TCP/IP link. When an Internet trade request is made, it travels via HTTP/HTTPS and is not real-time. But with a speed trade transaction, the transfer of information is directly with the trading system and is entirely live.

For Internet trading, 128-bit SSL encryption technology is used and the same facility is made available with cable connections, GPRS and dial-up.

The offline model is more personalized in the sense that it provides the customer the opportunity to interact with a human voice through the IVR or a team of customer service executives over the telephone.

There are different constituents of Internet trade such as broker accounts, depository participants and bank interfaces. The solution deployed may have all these integrated into one unit or could be separate modules.

The service request can also be diverted to a sales executive or authorized dealer, if the client wishes to speak to someone. The authorized dealer will verify the user details, take down the order and execute the same.

Trading through Wireless medium on WAP Platform has also been approved. This provides access to its order books through handheld devices, which is expected to serve retail mobile investors.

6.2 NSE Requirements

NSE vide its circular No. NSE/CMT/1641 dated 12th May' 2000 specified requirements for CTCL IS environment. As per NSE's said circular 'Trading Members can use their own software running on any suitable hardware / software platform of their choice. This software would be a replacement of the NEAT front-end software used by members to trade on the NSE trading system. Members can use the software customised to meet their specialised needs like provision of on-line trade analysis, risk management tools, integration of back-office operations etc. The dealers of the member may trade using the software remotely through the member's own private network, subject to approvals from Department of Telecommunication etc. as may be required in this regard.'

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Trading Members may procure the CTCL software from approved software vendors who are empanelled with NSE or they may develop the software through their own in-house development team or may procure the software from other non-empanelled vendors.

Empanelled vendors for CTCL Solutions

NSE & BSE have empanelled certain vendors for providing CTCL/ IML solutions to their trading members. Name of some of the major vendors providing CTCL/ IML facility for Stock Brokers are as follows:

CTCL/ IML Vendor
1. Asian CERC Information Technology Ltd.
2. Elind Computers Ltd.
3. ENC Software Solutions Pvt. Ltd.
4. Financial Technologies (India) Pvt. Ltd. jointly with Microland Ltd.
5. Internet ExchangeNext.com Ltd.
6. NSE.IT Ltd.
7. Omnesys Technologies Pvt. Ltd.
8. SDG Software Technologies Pvt. Ltd.
9. Tata Consultancy Services.

The above list is an indicative list of the vendors whose details reached us. BSE/ NSE keeps updating this list from time to time and it is imperative that we get updated lists from BSE/ NSE for our requirements.

CTCL Audit Preparation

7.1 Engagement letter / Terms of Engagement

The Auditor must have a clear mandate to perform the Audit function. AAS – 26 on, 'Terms of Audit Engagement' states that 'Auditor and the client should agree on the terms of the engagement. The agreed terms would need to be recorded in an audit engagement letter or other suitable form of contract.' The audit charter or engagement letter should be detailed enough to communicate the purpose, responsibility and limitations of the audit assignment. In the interest of both the client and the auditor, the auditor should send an engagement letter, preferably before the commencement of the engagement, to help avoid any misunderstandings with respect to the engagement. The engagement letter should be reviewed periodically to ensure that the purpose, responsibility and scope have not changed. The auditor should also ensure that there is no conflict of interest, the purpose of audit, the scope of work and the area of coverage should be clearly spelt out in an engagement letter. Requisite disclaimers also need to be incorporated to safeguard the interest of the auditor.

7.2 System Audit Scope, Audit Time & Deliverables

Audit mandate must clearly specify the auditee's requirements & objective of the audit, areas of coverage based on which the auditor should plan the scope of his work. The auditor must also be aware of the relevant and recent notifications/ circulars of the Exchanges. The mandate must also specify the time frames within which the various stages of the audit have to be completed and the report expected. The mandate must also specify the names and the designations of the person to whom the audit report to is submitted and number of copies that are expected.

7.3 Business / Systems Knowledge

On the basis of objective of the audit and available technology infrastructure of auditee, an audit plan should be developed. Plans should also be based on the knowledge of the client's business. The Auditor should have an understanding of the auditee's information system architecture and the auditee's technological direction. According to AAS – 20 on 'Knowledge of the Business', 'In performing

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an audit, the auditor should have or obtain the knowledge of the business sufficient to enable the auditor to identify and understand the events, transactions and practices that, in the auditor's judgment, may have a significant effect on the examination or audit report.' i.e the auditor should obtain an understanding of stock broking activities, organization set up, locations and its process like placing of order, execution of trades, clearing of trades, settlement of trades, Settlement of funds and securities, etc. Knowledge of the organization should include the business, financial and inherent risks facing the Members of the Stock Exchanges and stock broking industry i.e. the auditor should use this information while conducting audit to assess the risk and identifying potential problems, developing objectives and scope of the work and evaluating audit evidence.

The auditor should understand the client's business controls and complexity, significance and materiality of IS resources, the types of events, transactions and practices that significantly impact controls. Where ever necessary, the auditor should also obtain the knowledge about the back up and updation policies, change management process, contingency plan, audit trails etc.

7.4 Understanding NSE requirement on CTCL Audit

As per the earlier NSE Circular (NSE/CMO/0241/2005) dated 13th Sept 2005, Guide Lines for CTCL Facility were divided into two parts. 'Part A' containing the points forming part of various guide lines & circulars issued by the Exchange in relation to CTCL facility. This is the compulsory part of the audit. 'Part B' contains the points which are comprehensive in nature and formed a part of all routine system audit exercises i.e audit for this part is voluntary.

As per the circular issued on 28th June 2006, Guide Lines are divided into three parts, which are as given in audit report format . 'Part C' is introduced as a compulsory part and addresses creation of all types of CTCL IDs on the CTCL server.

Moreover, each User ID is to be mapped to a unique 12 digits code on one to one basis and information of the same is to be maintained. It is mandatory for the member to upload details of all the CTCL ids created in CTCL server of the trading member, for any purpose like administration, branch administration, mini-administration, surveillance, risk management, trading, view only, testing, etc. and any changes therein to the Exchange. The recent reporting requirements insist that the auditor reports the status of the Compliance of the above (Ref. Part C).

With reference to the recent circular no. (NSE/CMO/033/2008) dated June 30, 2008.

- 8) In case of system audit requirement as referred to in circular no (20070517-26) dated May 17, 2007 of the Mumbai Stock Exchange, The areas of audit is divided in three annexures. Annexure 'A' and Annexure 'C' are mandatory and Annexure 'B' can be audited at the discretion of the Members of the Stock Exchanges.

7.5 Securities Trading and Information Technology (IT) Awareness

As more IT Controls are involved, the auditor is expected to have the required level of awareness of related devices, technologies and CTCL controls.

7.5.1 Security Trading Awareness Areas

Subject	Awareness Area
1. Securities Trading	Complete understanding of flow & operations of stock broking activities, trading pattern, etc.
2. Compliance	Knowledge of Rules, Regulations, Act, Circulars, etc.
3. Audit Requirement	Exchange Guidelines, Important Circulars issued., Timeline of reporting, etc.

7.5.2 IT Awareness Areas

Subject	Awareness Areas
1. PC / Server Hardware	Understanding configuration, data storage devices and operating skills.
2. Preparation of OS / Application Control Assessment	Testing Features.
3. Networking & Connectivity	Devices: Router, Modem, Switch, Cable types.
4. TCP / IP	Internet related data security practice.
5. Database Management Systems	MS SQL, Oracle.
6. Systems under change	Use of methodology, security and post-

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Subject	Awareness Areas
	implementation reviews.
7. Business Continuity & Disaster Management	The planning and implementation of plan / procedures.
8. Virus / Trojan / Spywares	Anti Virus, Malware detection & protection.
Information Security	Internet penetration studies and Internet Security tools.
Sign On Password	Computer.
Windows 2003	Security Configurations.

7.5.3 Other Awareness

Protection from Outside Threats

Firewall: The internal corporate network or server should not be connected to the perimeter network without firewall protection. Complete firewall architecture must be in place to protect the corporate assets from the Internet. The firewall parameters to be selected so that, any suspicious activity or suspected security compromises to the perimeter network must be logged and suitable alert to be sent to the information security officer.

Application: If one is not actively using a session, it will be disconnected. A timeout procedure for all idle connections to the perimeter network should be in place.

Protection from Inside Threats

User Discipline: Uploading or downloading material should be prohibited. Displaying material on any intranet or Internet server should be expressly prohibited.

7.6 Audit Planning

Policy Manual & the last Auditor's report are the minimum documents necessary for planning the audit process. The auditing efforts mainly depend on the branch locations & total number of servers present. These factors can be evident from

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the documentation. Additionally, study of the documents would reveal the depth of CTCL Audit to be done and skill sets available.

Internet trading facility involves/ requires greater level of scrutiny to determine the controls and their effectiveness. During the audit, certain tests should be performed out of business hours to minimize the impact on trading operations.

List the tools required to perform IT audit. Important rule of the audit is the test & to re-verify the tools. Plan the environment & facilities needed for the use of the tools. Take required authorization from the auditee.

As risk management is a continuous process of reducing risk levels, every audit is expected to look at even deeper & intricate issues. Circulars issued by the Exchanges also indicates similar trend.

Following is the rough estimation of time for a CTCL facility at single location:

Activity	Time utilization (%)
1. Planning & Review of Documents	20 %
2. Evaluating Business Controls	15%
3. Evaluating IT Controls	30%
4. Data analysis & report preparations	35%

7.7 Audit Programme

The auditor should prepare a written audit programme, setting forth the procedures that are needed to implement the audit plan. The programme may also contain the audit objectives for each area and should have sufficient details to serve as a set of instructions to the assistants involved in the audit and as means to control the proper execution of the work.

The auditor needs to obtain the same degree of assurance in order to give an unqualified opinion on the system of both small and large entities. However, many controls, which would be relevant to large entities, are not practical in the small business. For e.g. in small business, activities of stock broker is performed by few persons, segregation of functions may be missing or severely limited. Inadequate segregation of duties may be offset by owner / manager supervisory

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controls, which may exist because of direct personal knowledge of the business and involvement in the business transactions.

The format for preparing audit programme of CTCL Trading facility is given as **Appendix - II** . The same needs to be suitably modified based on size of the organization, locations, no. of servers, prevalent application software, IT environment with the auditee.

7.8 IT Auditing Tools

Externally, observation of IT infrastructure would not reveal many internal threats and weaknesses. Also, observing internals of CTCL Network, Trade Terminals & Servers need higher level of different skill sets. Finding IP addresses, OS / Application versions, Patch update status, level of vulnerability etc. can be easily reported with the help of IT Audit Tools. Without such tools, finding out these details demands a more intricate knowledge of Information Technology and additional time to perform many tasks manually.

There are number of tools available and are designed to handle certain range of complexity. Microsoft readily provides many IT audit tools. Some are included in certain versions of the OS, whereas others may be downloaded from Microsoft site.

Choice of suitable audit tool makes the audit operations efficient, accurate and demands lesser IT skill sets. IT Audit Tools also create authentic audit notes and reports for the auditor's records.

7.9 Source Documentation / Existing Systems Designs / Preliminary Evaluation

The Auditor should obtain an understanding of the activities/process, internal control system and audit risk and its components, inherent risk, control risk and detection risk, to plan the audit and develop an effective audit approach. The auditor should use professional judgment to assess audit risk and to design audit procedures to ensure that it is reduced to an acceptably low level. The auditor should document the risk assessment methodology used for an audit.

The Auditor should study existing systems designs, architecture of network, network diagram, physical and logical access controls, application controls, review of risk management system, user management, etc. The auditor should

also study previous audit report, strategy and various policies existing in the organization and the degree of adherence to those policies.

The auditor should review the information system and related controls to gain an understanding of the flow of transactions and the specific control procedures to be able to make a preliminary evaluation and identification of those internal controls on which it might be effective and efficient to rely in conducting his audit i.e the auditor should obtain certain basic information from the Members of the Stock Exchanges before commencing system audit like number of servers, number of terminals, location of terminals, connectivity, name of system & database administrator, approved users and their certification, etc.

The auditor should, besides understanding the extent of computerization of business processes and activities, give special consideration to critical processes and unusual transactions.

Audit and Assurance Standard (AAS) 1 on 'Basic Principles Governing an Audit', states: 'The auditor should document matters which are important in providing evidence that the audit was carried out in accordance with the basic principles.' i.e the auditor must maintain proper documentation of their work. All significant matters, which require the exercise of judgment, together with the auditor's conclusion thereon, should be included in documentation.

As per 'Technical Guide on IS Audit', 'Auditor must ensure that the documentation they maintained includes the information required by standards and guidelines issued by the professional bodies like ICAI, ISACA, ISC2, etc., law, government guidelines, and that such documentation is clear, complete and understandable by the reviewer.'

7.10 CTCL Audit Approach

Security risk management is the process that is defined as the overall process to manage risk to an acceptable level across the business. Risk assessment is defined as the process to identify and prioritize risks to the business. CTCL Audit is risk management audit.

Strictly speaking, large or small CTCL facilities cannot be classified on the basis of IT infrastructure. But they are classified on the basis of the volume of business conducted. To manage the volume of business, appropriate IT infrastructure is built. Smaller CTCL facilities are different from their larger counterparts. There are facilities with one CTCL Server & one trading terminal, and there are facilities which include number of servers with dealer and / or branch terminals.

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Obviously, risk management of smaller facilities can be less complex without decreasing the quality and effectiveness. Larger CTCL facilities have more transaction volume. Moreover, some of the management or administration functions could be out sourced. There, usually, is a need for more formalization in the control process, enhanced level of documentation and evidence of effective working of controls.

Risk management is an ongoing cycle, in this case the cycle time is defined as annual. The CTCL Audit process, primarily expects checking control implementation as per NSE guidelines and measuring its effectiveness in the CTCL Facility.

The risk management process is normally aligned with an organization's fiscal accounting cycle. This enables a suitable budget allocation for the required controls.

The actual audit process is considered to be inclusive of three main stages, Evaluating Documentation, Evaluating Implementation of Controls & lastly Evaluating Effectiveness of Controls.

8.1 Evaluating Documentation

Audit of Intent or adequacy, to ensure systems are in place determines the scope of Audit. Documentation is necessary so that all the concerned understand their responsibilities, importance of control and how control operates.

Documentation gathering Phase:

- 1) Policy & Procedure Document for Operating CTCL Facility.
 - a) Information Security Policy
 - b) Password Policy
 - c) User Management and Access control Policy
 - d) Network Security Policy
 - e) Application Software Policy
 - f) Change Management Policy
 - g) Backup Policy
 - h) BCP and Response Management Policy
 - i) Audit Trail Policy
- 2) CTCL Facility Network Diagram last submitted to the Exchanges.
- 3) CTCL Application Related documents:
 - a) Version details of various application of the CTCL application

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- b) Version Control Log.
- 4) CTCL User ids Record register
 - a) Log of any changes made to the User register
 - b) User Qualification copy
- 5) Activity Logs
 - a) Authorized users
 - b) System Logs

8.2 An Overview of Controls

Organizations use controls to regulate their business processes, which include activities like finance, distribution etc. All controls are placed to reduce risks to business of the organization. There are two types of controls, business controls and IT controls. Business Controls regulate business process of the organization. IT Controls regulate & guide IT operations. These controls address the issues like availability, change management, user provisioning, security and so on. IT Controls can be further divided in two parts, general controls & application controls.

- 1) **CTCL Business Controls:** User Approved by Exchanges, Compliance to Exchange Circulars, business continuity, disaster recovery, etc.
- 2) **CTCL General Controls:** Physical Security, Server Access Control,
- 3) **Maintaining Logs & History,** Trade Information, Trade Settlement etc.
- 4) **CTCL Application Controls:** Password, Back up, Unique User Ids, Parameter Settings, Prompt Access to Customers, Firewall & Anti Virus, etc.

8.3 Evaluating Implementation of Controls

Audit to determine to which degree the controls are in place.

To verify that the designated user & groups have proper access to perform their tasks appropriate to their security levels. The important actions performed are logged. General security controls maintain the baseline security level (e.g. Anti Virus)

Check following controls as per the compliance requirements:

- 1) Business Controls:
 - a) CTCL User approval application
 - b) Copy of user qualification
- 1) General Controls:Network:
 - a) CTCL Network isolation from Back Office network
 - b) Physical security of Cables
 - c) Firewall Configurations
 - d) IDP + Anti Virus protection
- 2) Servers
 - a) Access Control
 - b) Session Security
 - c) Database Security
 - d) Session Encryptions
 - e) Password Policy enforcement (Admin, Application, user)
 - f) Logs: Trade, Application, Error Logs, etc
- 3) Trader Terminals
 - a) Anti Virus Protection
 - b) Personal Firewall: Allow only trade related traffic ports

8.4 TCP Ports & Firewall

Every application on the network uses specific TCP communication port.

Some of the common applications normally use specific ports e.g. ftp: 21, http: 80, SSH: 22, https: 443. Default port for CTCL application depends on the vendor

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software. Depending on the network requirement that port number can be changed to any available port number e.g.777.

Depending on number of applications used on the PC, corresponding TCP ports have to be “opened” on the personal firewall.

Similarly, firewall at the perimeter of the entire network should “open” TCP ports to support the applications on the Internet. Some of the common ports for the Internet applications are mentioned above.

8.5 Evaluating Effectiveness of Controls

Audit to determine the degree of the effectiveness of controls.

The Measuring Effectiveness phase assumes that the status has changed due to business needs or implementation of the recommendations from previous audit. The new state is documented and this audit is to a formal external review of the risk to the organization.

As the business continues, this review also helps demonstrate the progress of reducing risk levels over time. By doing this, the risk mitigation gets truly integrated into the business and the scorecard prepared by the auditor helps demonstrate this.

This applies to all the controls covered by Exchange Guidelines. Evaluation of each control cannot be discussed in this note. For illustrating this phase, examples of Virus Protection effectiveness are given below:

- 1) Note the type and make of the installed Antivirus
- 2) Scan engine version of the installed Antivirus:
- 3) Update status of the Antivirus:
 - Antivirus must have the latest Virus Signatures: this can be obtained from the Antivirus vendors website.
 - The signatures must not be older than one week (Weekly update)
- 4) Last Antivirus scan record:
 - No live Viruses must be present
- 5) System for any resident virus or virus traces:

- Anti Virus logs must not report any failed instances. (i.e. Virus cannot be cleaned / Quarantined / Deleted);
- 6) Antivirus of the critical logs, event or trace of virus
- Anti Virus must report all the logs,
- 7) Real time scanning status of Antivirus:
- Anti Virus in the Status must display the Real time scanner to be ON

Criteria for determination of effectiveness:

- 1) **Strong:** All the above controls are implemented and the status is OK.
- 2) **Medium/ Adequate:** Some controls: Not implemented or Status cannot be Confirmed.
- 3) **Weak/ Inadequate:** Anti Virus is not installed or the control are not configured.

All the controls given in the Exchange CTCL Guideline can be evaluated in the similar manner.

8.6 Risk Assessment

With reference to NSE CTCL Circulars NSE/CMO/035/2006, NSE/F&O/042/2006 & NSE/F&O/0152/2005 Annexure : Guide Lines to CTCL Audit Part B

“Control Specifies: Does the Organisation have a suitable documented Business Continuity or Disaster Recovery or Incident Response process commensurate with the organisation size and risk profile to ensure a high degree of the availability of the installed CTCL system.

However, Policies/ procedures regarding Business continuity/ Disaster recovery is mandatory to be reported in the audit as specified by the Mumbai Stock Exchange.

Test Case: Are there any documented Risk Assessments?”

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Risk assessment involves a systematic consideration of:

- 1) Consequences: business harm likely to result from a significant breach of security.
- 2) Probability: The realistic likelihood of such a breach happening with reference to prevailing threats, vulnerabilities and controls.

Process of Risk Assessment:

- 1) The process depends on: Identification & valuation of assets, Identification of all security requirements, Assessment of likelihood of vulnerabilities to occur, Quantifying the risk and Selecting appropriate Risk Treatment, Selection of Controls to bring risk to an acceptable level.
- 2) Any method as specified in the organisation's system policy and the identified information security, legal & regulatory requirements.
- 3) Determining the criteria for accepting risk & identifying acceptable level of risk.

8.7 Respond to findings by Auditee

The Auditee is expected to implement and comply the recommendation given by the Auditor. These recommendations and effective implementation is checked in the subsequent Audit.

Note: In addition to the Suggested check list given in 'Appendix III', the auditor needs to ensure that the areas of audit checklist where it is required to use the vendor's application for confirming that it has followed the Exchange's Guidelines w.r.t. trades getting executed at the exchange have to be done in the live environment. The rest of the areas of audit can be done in off line environment. The care is to be taken while auditing in Live environment to check in case any trades do not get executed to the Exchange. It is advisable to conduct such a test in the presence of / through authorised officials of the member of stock broker.

8.8 Building Opinion

NSE has provided the guideline for checking relevant controls. Most of those controls have two dimensions, one of policy & procedure documentation and other dimension is of actual implementation of control in accordance with the policy.

Criteria (Suggested by NSE)	Control Evaluation Suggested	Findings & Observations
<p>Implemented controls materially fail to comply with the stated control objectives.</p> <p>Compensating controls fail to reduce the risk so as to make it immaterial vis-à-vis the non-compliance with the compliance criteria.</p>	<p>Weak</p>	<ul style="list-style-type: none"> • Relevant Policy or Process is not documented. • Controls Non-Existent: <ul style="list-style-type: none"> ○ Examined Controls do not exist. • Ad-Hoc Controls: <ul style="list-style-type: none"> ○ Efforts are performed in an ad-hoc manner or non-consistent and the process is not fully repeatable. ○ Control results are not measured and audited.
<p>Implemented controls substantially comply with the stated objectives and no material weakness results in substantial risk exposure due to the non-compliance with the criteria.</p> <p>Compensatory controls exist which reduce the risk exposure to make it immaterial vis-à-vis the non-compliance with the criteria.</p>	<p>Medium</p>	<ul style="list-style-type: none"> • Defined Process : <ul style="list-style-type: none"> ○ Documentation of policies & procedures exists. But, the process is not fully documented. Documentation of the processes should be for achieving and measuring defined success. ○ Related activities occur on a regular basis. The organization is working toward establishing a comprehensive risk management process with senior management involvement. ○ There is no formal training or communication on risk management; responsibility for implementation is left to individual employees. • Repeatable Controls: <ul style="list-style-type: none"> ○ Availability of audit trails, log register records, review meetings minutes. ○ Risk areas indicated by IT audit tools. ○ Event identification & recording

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Criteria (Suggested by NSE)	Control Evaluation Suggested	Findings & Observations
		<p>process</p> <ul style="list-style-type: none"> ○ Backup & restoration process tested ● Correlation between policy-process and controls.
<p>Implemented controls fully comply with the stated objectives and no material weaknesses are found.</p>	<p>Strong</p>	<ul style="list-style-type: none"> ● Management & Processes: <ul style="list-style-type: none"> ○ Understanding of CTCL risk management at all levels of the organization. All the related procedures exist, the process is well defined, awareness at all levels, desired skill sets are available. ○ The team has understood the need for continuous improvement in its processes and tools. Using some automated tools / features to help CTCL risk management. ● Measurable Effectiveness: <ul style="list-style-type: none"> ○ Analysis of audit logs, records & minutes. ○ Analysis provided by IT audit tools. ○ Event simulation methods & preparedness. ○ Business continuity: Standby equipments , Mirror Site available & tested. ● Accuracy of policy-procedure and implementation of controls.

Difficulties in building Opinion:

- Insufficient differentiation between important / critical / potential risks. This is an inherent draw back of qualitative audit.
- Results are dependent upon the quality of the audit. For example, “CTCL facility” was interpreted as CTCL Server alone by many auditors. Whereas

more knowledgeable auditors took a broader view of including Terminals and branches also. Now, NSE has further clarified that one audit report to include all the terminals and branches.

- Difficult for the auditor to justify investing in control implementation because there is no basis for a cost-benefit analysis. It depends on NSE Circulars and its interpretation.
- Risk due to Flat file Output: The output trade (Sauda) file provided by NSE is a flat file and the back office network is expected to be isolated from the CTCL network. The inherent risk of handling such a file is passed on to the CTCL trading facility. To transfer the trade file, CTCL facilities have implemented different methods. Again it depends on the Auditor to view the arrangements made. Ideally, the method to support the assumed fundamental objective of “better investor protection” view may be considered to prevail on other options.
- Software Up-gradation & Compliance by provider:

8.9 Important Suggested Checks

The important suggested checks of CTCL Audit are given as ‘**Appendix II**’.

Note: This is an indicative checklist which needs to be modified based on size of the organization and nature of activities.

The important suggested checks of CTCL Audit are given as ‘**Appendix II**’.

8.10 Important Areas for Audit of Stock Brokers

Some areas to concentrate during the audit at the member’s end:

1. It is to be understood that every member obtaining CTCL facility from the Exchanges is required to take prior permission from respective Exchanges. This id’s are mapped in the risk admin server at the members end. It is suggested to check that the necessary approvals are obtained prior to updating them in the server for all the id’s allotted to the member’s.
2. At times it is observed that the database server is kept in open with no restrictions to it. The access of the same is open to all i.e. to the employees and also to the outsiders. Also, the passwords stored are not encrypted/ masked. This type of practice at the member’s end should be stopped.

Systems Audit of Stock Brokers CTCL

3. Majority of the times it is observed that the member's of the Stock Exchanges do not adhere to the policies and procedures laid down by them. Since being into IT environment, such practice is not justified.
4. It is observed that the backed up database is not restored periodically at the members end. Restoration of the same is a must to ensure that the backup data is useful in the need of the hour.
5. For access control: it is required to check that, the access to the data base and risk admin is given with some check. The same can be in the form of user id and password control or some control like biometric can also can be kept. Also, there is a requirement for mandatorily changing the password every 14 calendar days. The auditor is required to check this parameter in the registry of the application or the same can be checked at every time the user logs in to the system.
6. The length of the password and its complexity is also required to be audited. The password should fit in its minimum and maximum character length and these shall be alphanumeric. However, special character is not put as a requirement. Also, it is required to be checked that changed password is not the same as that of last password (for NSE) and not the same as that of last 8 passwords (for BSE). The same can be checked from the registry or changing the same in the test environment.
7. It is required for a mandatory change of the password at the time of first login. The same can be checked by resetting the password for one of the id or creating a test new id.

9

Systems Audit Report

9.1 NSE Audit Report Format-NSE/ CMTR/ 7634

9.2 BSE Audit Report Format-20070517-26

9.3 Non-Compliance Consequences

➤ As per NSE Circular (NSE/CMO/035/2006) dated 28th June 2006, Non compliance to above CTCL Audit compliance will result into following:

1. Late charges of Rs. 100/- per day w.e.f. August 01, 2006, will be levied on members failing to submit System Audit Report on or before July 31, 2006.
2. Members failing to submit System Audit Report after August 31, 2006, shall be liable for the withdrawal of trading facility.
3. Non-Compliant members shall render themselves liable for action as may be deemed fit by the Exchange.

➤ As per BSE circular (20080627-16) dated June 27, 2008

1. Non-submission of System Audit Report by July 31, 2008 would attract a penalty of Rs. 100/- per day from August 1, 2008 onwards till the date of submission of the same.

Non-submission of the Network Diagram and/or SSL (Secured Socket Layer) certificate by July 31, 2008 would attract a penalty of Rs. 100/- per day from August 1, 2008 onwards till the date of submission of the same.

Systems Audit of Stock Brokers CTCL

Concluding

The entire community, including investors, auditors, management, traders, exchange and regulators, have the common goal of improving the reliability of the trade transactions, its reporting and related information available to and from the market. CTCL Audit is an integral part of this objective.

10

NSE & BSE Circulars

The actual audit process is considered to be inclusive of three main stages, Evaluating Documentation, Evaluating Implementation of Controls & lastly Evaluating Effectiveness of Controls.

10.1 Introduction

It is important to comply with the BSE & NSE Circulars while conducting Systems Audit of Stock Brokers of respective Exchanges. The following sections provide a listing of the important Circulars issued by the two Exchanges along with annexure number where a softcopy of these circulars are available in the CD available with this Technical Guide for your ready reference and use.

It is pertinent to note that both NSE & BSE keep coming out with new circulars and it is pertinent for the IS Auditors to keep themselves updated on the same from time to time. Kindly do look at following links to get updated circulars from time to time:

1. BSE: http://www.bseindia.com/cirbrief/new_notices_datewise.asp?day=today. Also it is possible for advance search to find the circulars of past.
2. NSE Link for NSE: <http://www.nseindia.com/>. The same is available in 'circulars'.

The references of the Exchange circular numbers are provided in the tables of following sections. For updations, it is suggested to check for the latest circular from the Exchange's website given above. It is also pertinent for the IS Auditors to get the latest circulars on the basis of which they need to conduct an audit from their clients to ensure that necessary compliances have been made.

Systems Audit of Stock Brokers CTCL

10.2 Important NSE Circulars on CTCL Audit

The National Stock Exchange (NSE) has issued the following important circulars impacting the Stock Broker CTCL facility, which need to be duly covered while undertaking Systems Audit of Stock Brokers CTCL facility:

Particulars	Download No.	Circular Date	File Name
1. Computer to Computer link (CTCL) Facility	NSE/CMTR/1641	12-May-00	
2. Free Release of NNF document to members and revision of fee/charge on CTCL	NSE/CMT/3896	28-Jan-03	
3. Affidavit –Cum – Undertaking for use of Computer to Computer (CTCL) Trading	NSE/CMT/4349	22-Aug-03	
4. Computer to Computer link (CTCL) Trading	NSE/CMT/4451	30-Sep-03	
5. Proprietary account trading	NSE/CMTR/4540	6-Nov-03	
6. CTCL facility / Internet based trading services	NSE/CMTR/4718	9-Jan-04	
7. Uploading of CTCL Details	NSE/CMTR/5758	13-Jan-05	
8. Uploading of CTCL Details	NSE/CMTR/5802	2-Feb-05	
9. System Audit	NSE/CMTR/6128	10-May-05	

NSE & BSE Circulars

Particulars	Download No.	Circular Date	File Name
requirement for CTCL / Internet based trading facility			
10. Norms for client passwords for Internet based trading services	NSE/CMTR/6343	1-Jul-05	
11. Guidelines for developing in house software for CTCL / Internet based trading facility	NSE/CMTR/6386	15-Jul-05	
12. Scheme governing the use of facility relating to Computer to Computer (CTCL) trading / Internet based Trading	NSE/CMO/0235/2005	24-Aug-05	
13. System Audit requirement for CTCL / Internet based trading facility	NSE/CMO/0241/2005	13-Sep-05	
14. Audit recommendations in system audit certificate	NSE/CMO/0242/2005	14-Sep-05	
15. Computer to Computer Link Facility (CTCL) for Online Book Building Process	NSE/CMO/0247/2005	27-Sep-05	

Systems Audit of Stock Brokers CTCL

Particulars	Download No.	Circular Date	File Name
16. System Audit requirement for CTCL / Internet based trading facility for half year ended December 31, 2005	NSE/CMO/006/2006	13-Jan-06	
17. System Audit requirement for CTCL / Internet based trading facility for half year ended June 30, 2006 - Capital Market Segment	NSE/CMO/035/2006	28-Jun-06	

10.3 Important BSE Circulars on IML Audit

The Bombay Stock Exchange (NSE) has issued the following important circulars impacting the Stock Broker CTCL facility, which need to be duly covered while undertaking Systems Audit of Stock Brokers IML facility:

Particulars	Download No.	Circular Date	File Name
1. System Audit Requirements & Submission of System Audit Report, Network Diagram & SSL Certificate	20070517-26	May 17, 2007	BSE20080513-3
2. System Audit Requirements & Submission of System Audit Report, Network Diagram & SSL certificate	20080627-16	June 27, 2008	

Annexure

Annexure I

Proforma Audit Engagement Letter

(This is just a proforma letter, members are expected to make suitable amendments based on the terms of the arrangement as well as applicable prevailing Regulations)

To,

The Board of Directors / (the appropriate representative of the company).

Company Name.

Address

Dear Sir,

Sub: Audit engagement letter

Ref: CTCL/ IML system audit for the period _____ to _____.

You have requested that we conduct the CTCL/ IML systems audit of your company for the respective exchanges covering the period from _____ to _____ for the locations at *(name of the location)*. We are pleased to confirm our acceptance and our understanding of this engagement by means of this letter. Our audit will be conducted with the objective of expressing an opinion on the CTCL/ IML system based on the relevant notifications/ circulars of the respective exchanges given to us.

We will conduct our audit in accordance with the auditing standards generally accepted based in India and with the required circular of the exchanges. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the CTCL/ IML systems are in conformity with the guidelines laid down by the respective exchanges. An audit includes examining on a test basis, evidence supporting the conduct of the relevant operations and maintenance of the necessary records. An audit also includes evaluating the overall internal controls.

However, having regard to the test nature of audit, persuasive rather conclusive nature of audit evidence together with inherent limitations of any systems or

Systems Audit of Stock Brokers CTCL

internal controls, there is an unavoidable risk that even some material deviations may remain undiscovered.

The responsibility of the management would include amongst other adherence of the controls, documents and operational efficiencies as prescribed in this regard along with proper explanation relating to material departures.

We look forward full cooperation from your staff and we trust that they will make available whatever records, documents and other information which are requested in this connection. We also look forward that the management will depute the appropriate person for providing complete assistance in conducting this audit including testing the data in live environment, for which the sole responsibility lies with the management.

Our fees for this assignment will be Rs _____/- and will be billed as the work progresses.

Please signed and return the attached copy of this letter and to indicate that it is in accordance to your understanding of the arrangements for our audit of CTCL/ IML systems.

For XYZ & Co
Chartered Accountants

Acknowledgement on behalf of
ABC Company.

(signature)
(Name of the member)
Mem No

(signature)
(Name and designation)

Date:
Place.

Annexure II CTCL Sample Check List

*(Non Comprehensive and cannot be formed as a baseline for any kind of report.
This is just an indicative checklist)*

Controls / Processes	Test Case	Suggested Checks
<p>The installed CTCL system parameters are as per NSE norms</p>	<p>CTCL Version</p> <ul style="list-style-type: none"> - Order Gateway Version - Risk Administration / Manager Version - Front End / Order 	<ul style="list-style-type: none"> - Check for the following in the help tab of the particular CTCL application. - Note the same and comment in case and irregularities are found.
<p>Application Access Control</p> <p>The installed CTCL system provides a system based access control over the CTCL server as well as the risk management and front end dealing applications while providing for security</p> <p>Session Security</p> <p>The installed CTCL system provides for</p>	<p>Placement Version</p> <p>Access controls</p> <ul style="list-style-type: none"> - The system allows access to only authorized users - The system has a password mechanism which restricts access to authenticate users. <p>Session Security</p> <ul style="list-style-type: none"> - The system uses session identification and authentication measures to restrict sessions 	<ul style="list-style-type: none"> - Check if CTCL application allows access only to the user created. - Check if blank username is accepted - Check if the CTCL application grants access to the uses that are created on the CTCL application. - Check the CTCL application documentation for user session identification and authentication

Systems Audit of Stock Brokers CTCL

Controls / Processes	Test Case	Suggested Checks
<p>session security for all sessions established with the CTCL server by the front end application.</p>	<p>to authorized user only.</p> <ul style="list-style-type: none"> - The system uses session security measures like encryption to ensure confidentiality of sessions initiated. 	<ul style="list-style-type: none"> - Check the CTCL application documentation for user session identification and authentication
<p>The installed CTCL system has an User Management system as per the requirements of the NSE.</p>	<p>Approved Users</p> <ul style="list-style-type: none"> - Only users approved by the NSE are allowed to access the CTCL system and documentation regarding the same is maintained in the form of <ul style="list-style-type: none"> o User Approval Application o Copy of User Qualifications <p>User Creation</p> <ul style="list-style-type: none"> - New CTCL User IDs are created as per the CTCL guidelines. <p>User ID</p> <ul style="list-style-type: none"> - All users are uniquely identified through issue of unique CTCL ids. 	<ul style="list-style-type: none"> - Check the CTCL user approval documentation of the Auditee with the Exchange - Check if CTCL users are approved by Exchange and documents indication the same are available. - Check for user Qualification (NCFM) certificates of the approved users. - Check the procedures for creating the CTCL User IDs are as per NSE guideline circular - Check the Users name to be unique - Comment on the findings - Check for any users that are disabled during the

CTCL Sample Check List

Controls / Processes	Test Case	Suggested Checks
	<p>User Disablement</p> <ul style="list-style-type: none"> - Users not compliant with the Exchange Requirements are disabled and event logs maintained <p>User Deletion</p> <ul style="list-style-type: none"> - Users are deleted as per the NSE guidelines <p>Reissue of User Ids</p> <ul style="list-style-type: none"> - User Ids are reissued as per the NSE guidelines. 	<p>audit period.</p> <ul style="list-style-type: none"> - Investigate in to the reasons for disablement - Check user disablement Logs - Comment on findings - Check for any users that are deleted during the audit period. - Investigate in to the reasons for deletion. - Check user disablement Logs - Comment on findings - Check for any Reissue of user IDs during the audit period. - Investigate in to the reasons for Reissue of User ID. - Check User Reissue Logs - Comment on findings
<p>The installed CTCL system Authentication mechanism is as per the guidelines of the NSE</p>	<p>The installed CTCL system's uses passwords for authentication.</p> <p>The password policy / standard is documented.</p>	<ul style="list-style-type: none"> - Does CTCL application at the time of Log on ask for username and password authentication at Server and Client level - Does a Password Policy document exist with the Organization. - Report findings in YES / NO

Systems Audit of Stock Brokers CTCL

Controls / Processes	Test Case	Suggested Checks
	<p>The system requests for identification and new password before login into the system.</p> <ul style="list-style-type: none"> - System controls to ensure that the password is alphanumeric (preferably with one special character), instead of just being alphabets or just numerical. - System controls to ensure that the changed password cannot be the same as of the last password - System controls to ensure that the Password should be of minimum six characters and not more than twelve characters. - System controls to ensure that the Password is encrypted at members end so 	<ul style="list-style-type: none"> - Check if the CTCL application asks for new password to be entered when a new User logs in the system for the first time. - Check if the CTCL application supports settings for password to be set to be entered in Alphanumeric and special characters - Report in YES / NO - Check if the CTCL application accepts the old password when the CTCL application asks for new password to be entered after 14 days. - Report in YES / NO - Check the CTCL application to accept password of minimum 6 characters and maximum 12 characters - Report in YES / NO - Check the CTCL application in Administrator mode, all the user names and verify that the corresponding passwords

CTCL Sample Check List

Controls / Processes	Test Case	Suggested Checks
	that employees of the member cannot view the same at any point of time.	are not displayed and if displayed are masked or encrypted. - Report in YES / NO
Vendor Certified Network diagram The Installed CTCL systems backup capability is adequate as per the requirements of the NSE for overcoming loss of product integrity	Date of submission to NSE - Verify number of nodes in diagram with actuals. - Verify location(s) of nodes in the network Are backups of the following system generated files maintained as per the NSE guidelines? At the CTCL server/gateway level - Database - Audit Trails At the CTCL user level - Logs - History - Reports - Audit Trails	- Report the date when the last Network diagram was submitted to Exchange. - Check if the Terminal declared in the Diagram match with the actual machines. - Check the actual locations of the nodes by physically visiting. - Is the CTCL Application capable of generating backup all the database - Is the CTCL application capable of generating backup of the Reports generated? - Is the CTCL application capable of generating backup at User levels? - Is the CTCL application capable of generating backup of following <ul style="list-style-type: none"> o Market Watch o User Logs

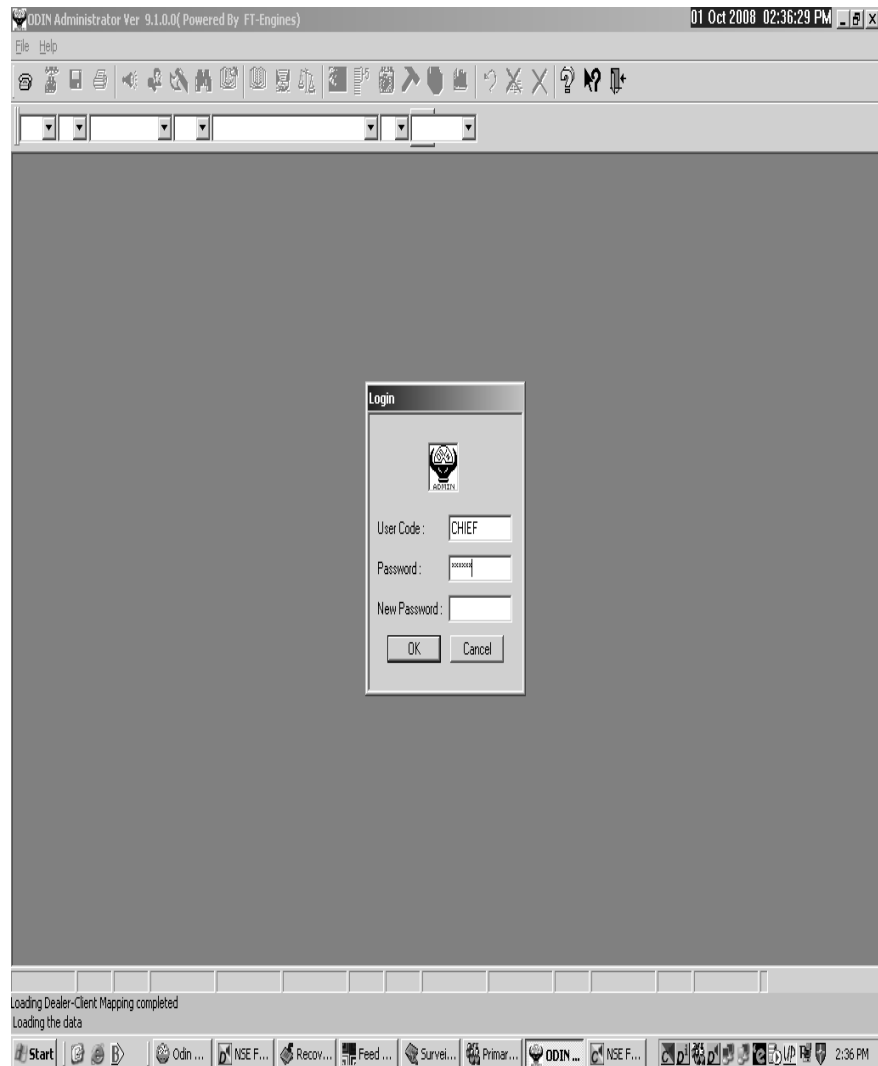
Systems Audit of Stock Brokers CTCL

Controls / Processes	Test Case	Suggested Checks
	<p>Have the backups been verified and tested?</p> <p>Are the backup media stored safely in line with the risk involved?</p>	<ul style="list-style-type: none"> ○ Trade History ○ Report ○ Audit Trails of User Trade activity <ul style="list-style-type: none"> - Enquire and Check if the Backup activity logs are maintained - Enquire and Check if the Backups of trade taken have been verified & tested for continuity of Trade activities - Enquire and Check if the Backup Media are stored in proper place / Location depending upon the criticality of the trade data - Has the organization tested the Recovery procedures - Are Logs related to Recovery maintained? - Backup media identification - Media safety / availability / process of authorization

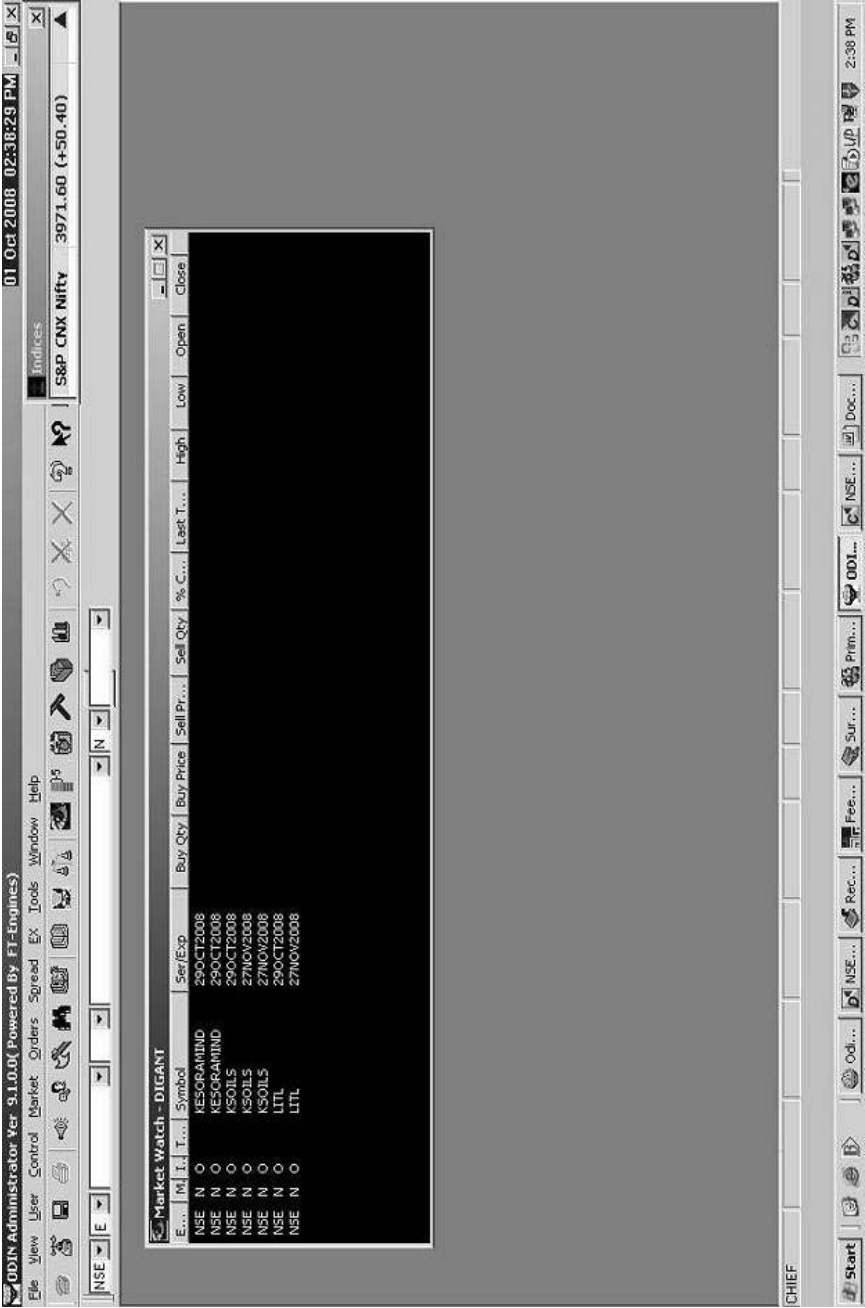
Annexure III

Screen Shots of CTCL/ IML

Application level Password Security



Admin Version

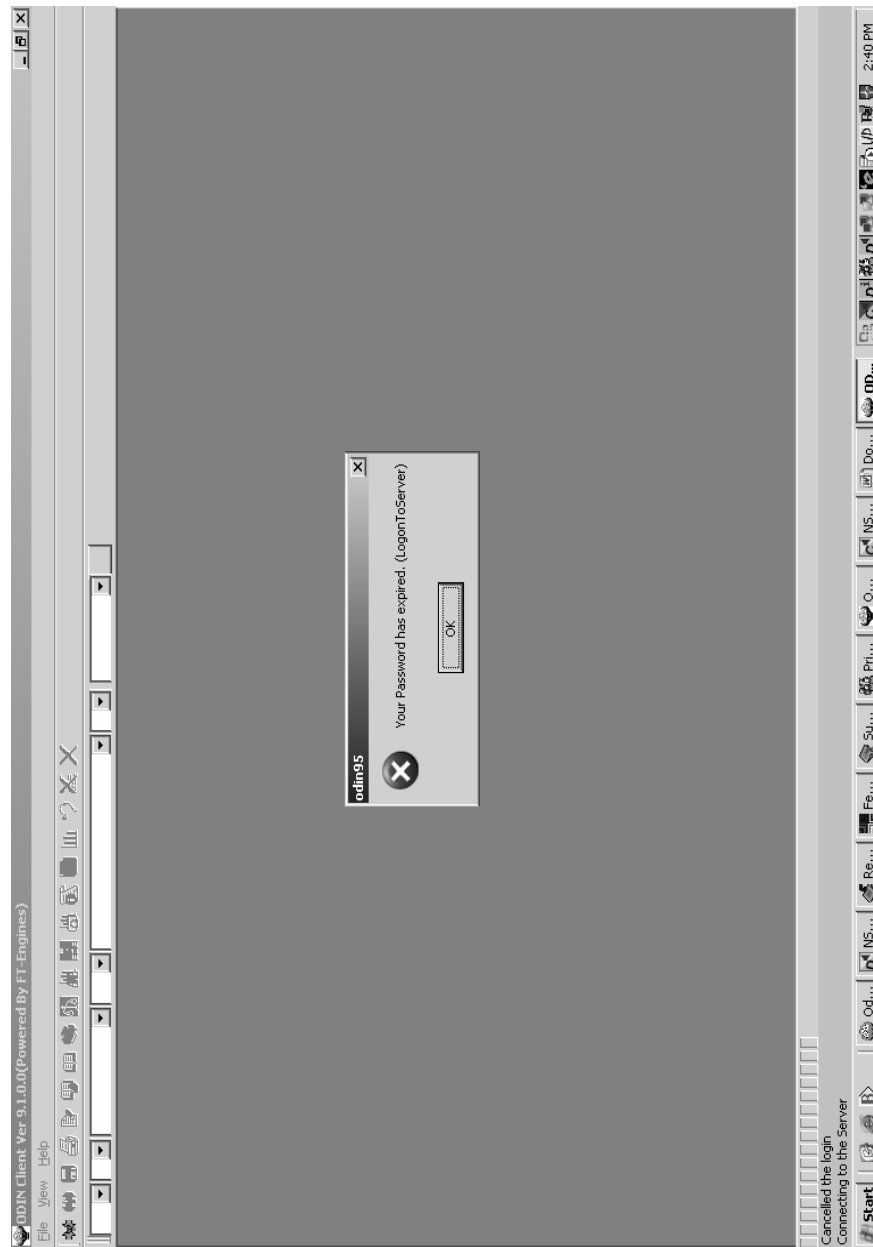


Manager Version

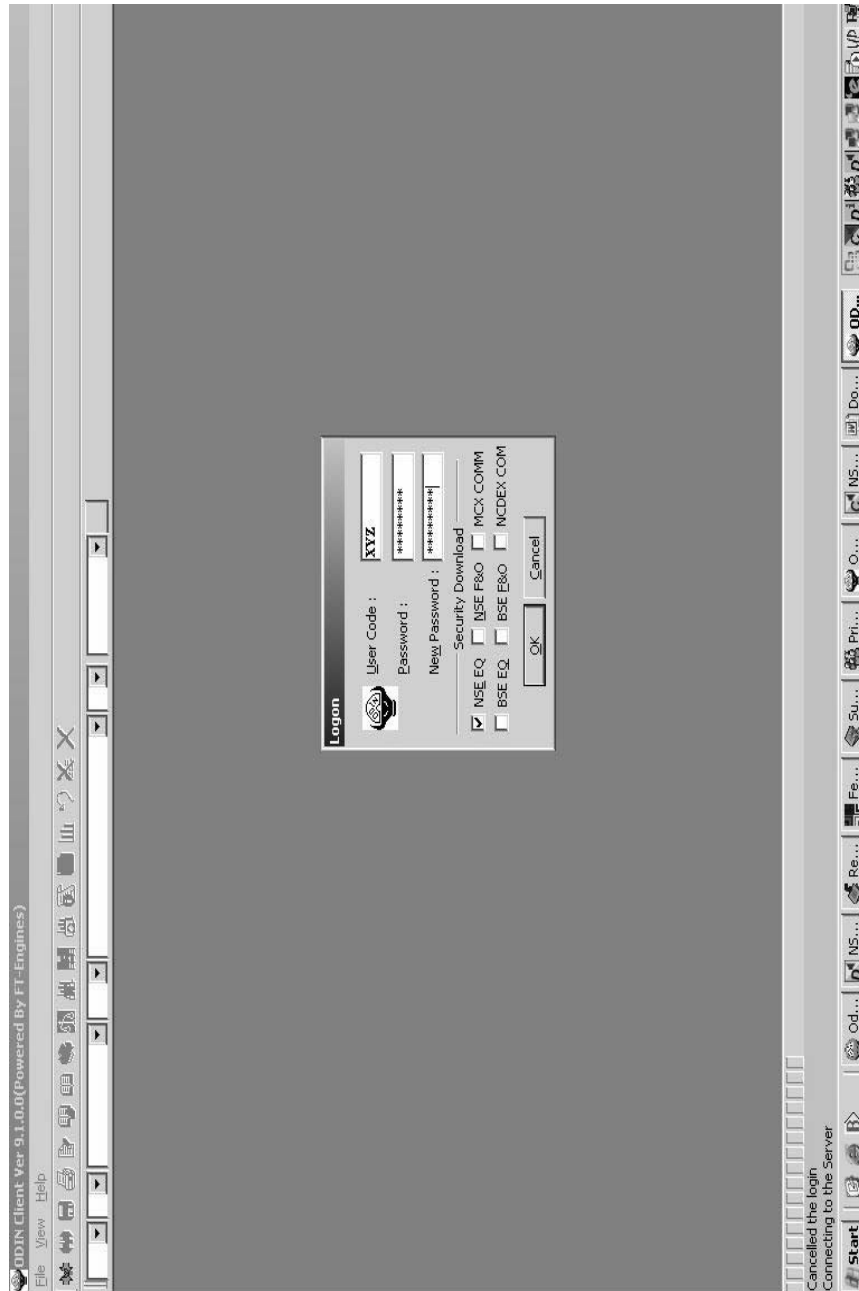
The screenshot displays the 'Odin Manager Ver 9.1.0.0 - [General Details]' application window. A 'Multi User Logon' dialog box is open, featuring a table with the following columns: Exchange, Market, Member Id, User Id, Password..., New Pas..., Incremental, Purge, Bcast, and Broker Name. The 'Exchange' column is set to 'NSE' and the 'Market' column is set to 'DERV'. Below the table, there are several control buttons: 'Apply Password to All Users', 'OK', 'Log On', 'Log Off', 'Refresh', and 'Exit'. A status bar at the bottom of the dialog shows 'Peak Mem Usage (140 MB) - 13%' and 'Peak PagePool Mem Usage (129 KB) - 12%'. The background window shows a 'Process Status' tab and a grid of system processes.

Systems Audit of Stock Brokers CTCL

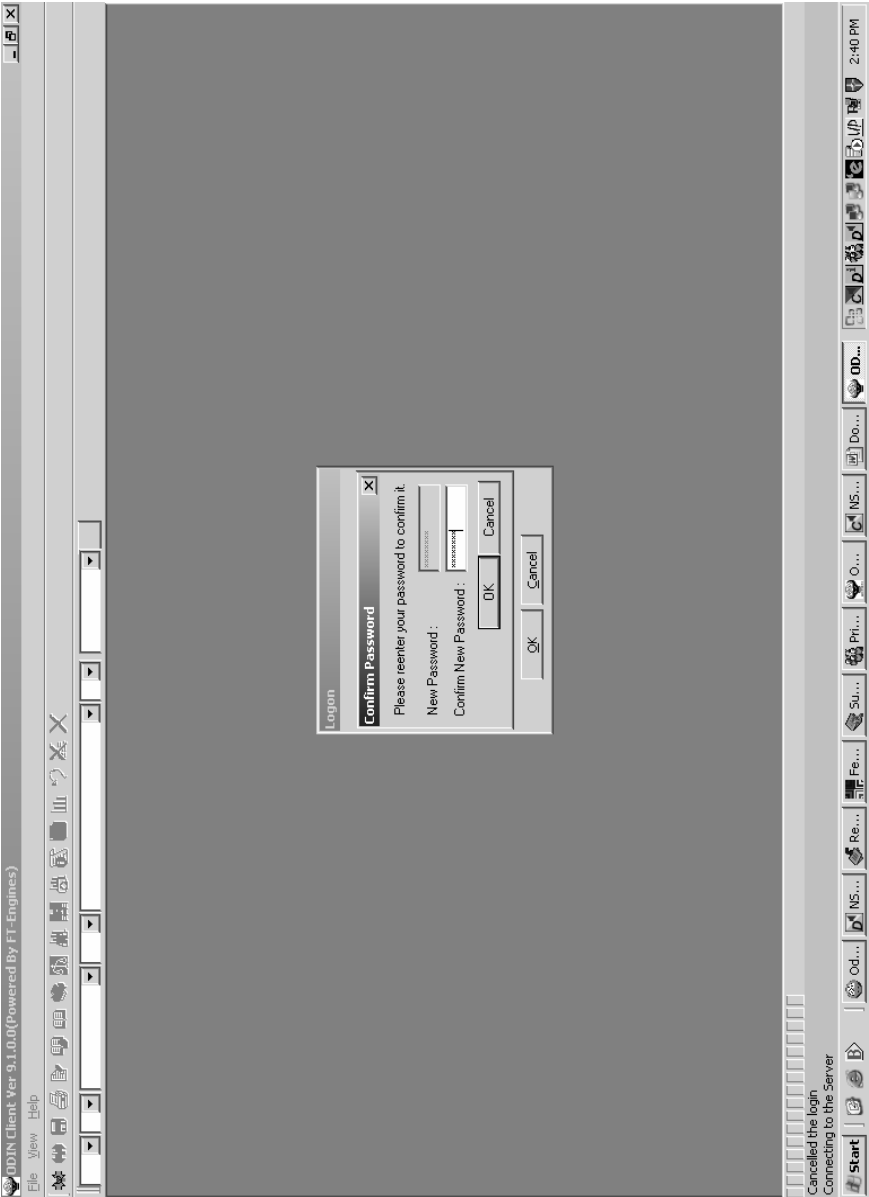
Client (Front-end)Version



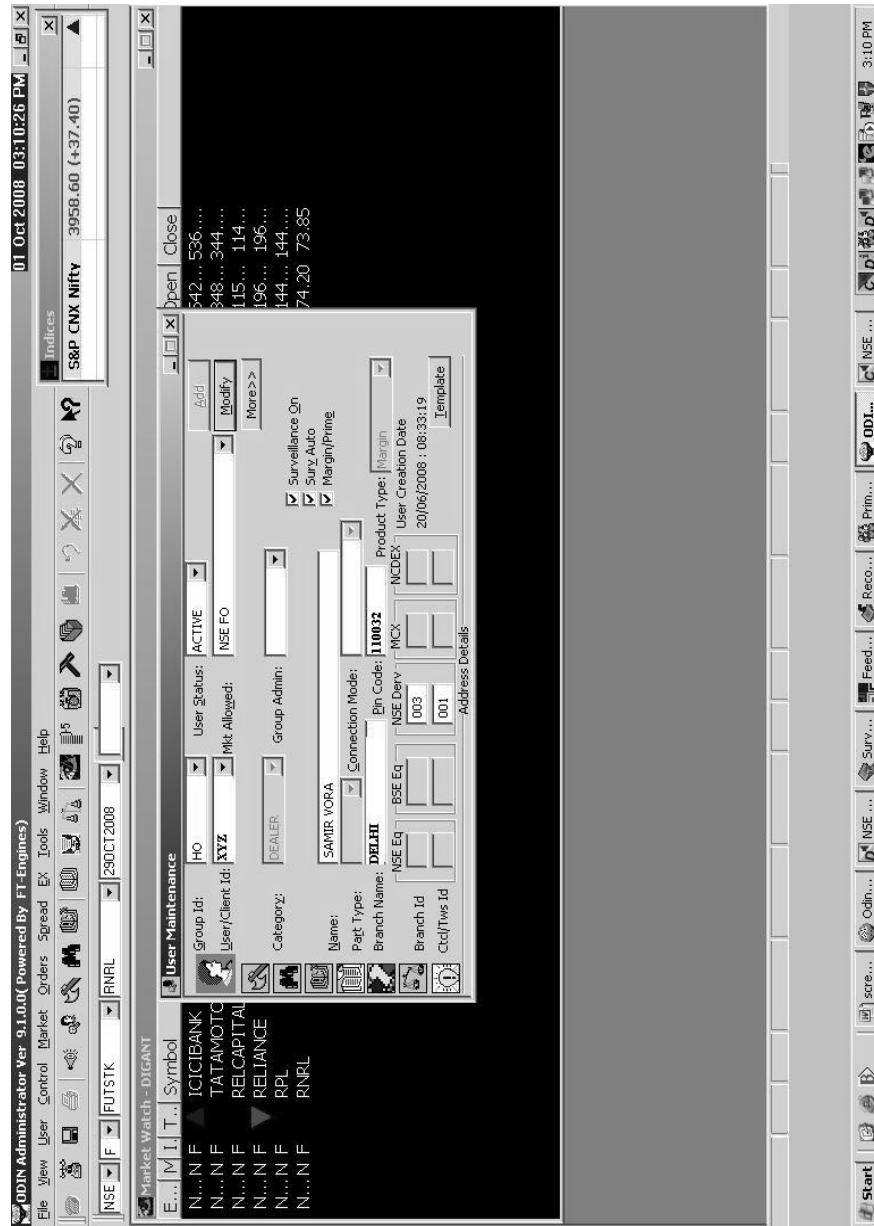
Client Login (Password masked)



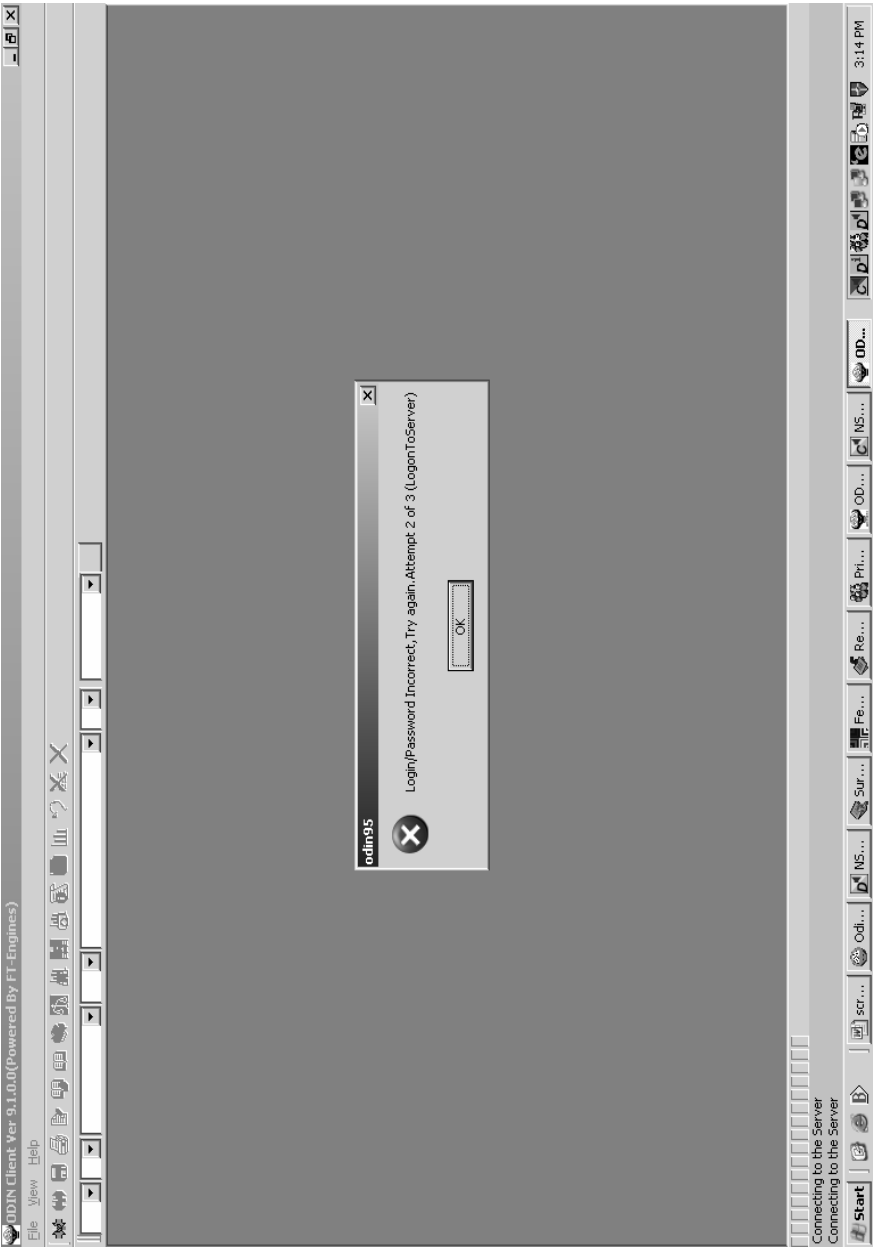
Mandatory Change of Password at First Login



Confirmation for Auto Surveillance in Admin



Password - Three Attempts Permitted



Order Confirmation

ODIN Client Ver 9.1.0.0(Powered By FT-Engines) F&O Id: Index View S&P CNX Nifty 3946.30 (+25.10)

File View Market Orders Bulk Orders EY Tools Window Help

NSE | F | FUTSTK | RNRL | 29OCT2008

Market Watch

Exc...	M I	Symbol	S S	Buy Qty	Buy Price	Sell Pri...	Sell Qty	Last Tr...	Volum...	% C...	High	Low	Open	Close
NSE	N F	TATAMOTORS	2..A	425	338.35	338.80	425	338.30	1124.125	-1.77	348.00	336.40	348.80	344.40
NSE	N F	ICICIBANK	2..A	3500	548.60	548.75	1750	548.75	9671.590	2.36	566.00	521.25	542.00	536.10
NSE	N F	RELCAPITAL	2..A	138	1141.35	1141.70	275	1141.35	6802.986	-0.71	118.00	1095.20	1152.00	1149.50
NSE	N F	RELIANCE	2..A	675	1924.95	1925.80	1500	1924.00	5425.575	-1.86	197.00	1893.00	1964.45	1950.55
NSE	N F	RPL	2..A	3350	141.40	141.50	8375	141.50	15763.425	-1.94	145.00	140.15	144.95	144.30
NSE	N F	RNRL	2..A	10728	71.95	72.10	17880	71.95	18264.420	-2.57	74.70	70.95	74.20	73.85

Derivatives Order Entry

BUY Type Instr Name Symbol Expiry Date Strike Price Opt Type Total Qty Price Prot % O/C C/U Des Qty Pro/CI

NSE RL FUTSTK RNRL 29OCT2008 1788 1788 1788 1788 1788 1788 1788 1788 1788 1788 1788 1788 1788 1788 1788

SubBroker Client Settler CP Broker Trig Price MFAON MF Qty Validity DAY

Message New Order Submit Clear

03:18:04 PM [NSE Equities] Order is there user is not interested in equity. The total value of this Order Submitted.

03:19:38 PM ORDER : NSE Deriv. 2008100167586428 O V BUY RL 1788 FUTSTK RNRL 29OCT2008 N at Rs.67.00 VALIDITY: DAY For PRO CONFIRMED

Start | scr... | Odi... | Sur... | Re... | Pri... | OD... | NS... | OD... | 3:18 PM

Systems Audit of Stock Brokers CTCL

Order Book

The screenshot displays the ODIN Client software interface. At the top, the title bar reads "ODIN Client Ver 9.1.0.0(Powered by FT-Engines) F&O Id:". The main window is titled "Orders Book - [AU]" and shows a table with columns for Client, Exchange, MemberId, Instrument, Instrument..., Ser/Exp/Gr..., Strike Price, Option Type, and Scrip Name. The table contains one entry for client "1", exchange "NSE", member "64821", instrument "FUTSTK", and scrip name "RNRL8OCTFUT".

Below the table, a "Derivatives Order Entry" form is visible. The form fields are as follows:

- BUY Type: BUY
- SubBroker: NSE
- Client: RL
- Instrument: FUTSTK
- Symbol: RNRL
- Expiry Date: 29OCT2008
- Strike Price: []
- Opt.Type: []
- Total Qty: []
- Price: []
- Prot. %: []
- O/C: []
- C/U: []
- Dis. Qty: []
- Pro/Cli: PRO
- Validity: DAY
- Submit: []
- Clear: []

At the bottom of the window, a status message reads: "For Help, All Pro Orders for FUTSTK:RNRL For RL OrderType For NSEFut". A system tray message at the bottom right states: "03:18:04 PM [NSE Equities] Order Submitted. Order Submitted. 03:19:38 PM ORDER : NSE Derv 2008100167586428 O V BUY RL 1788 FUTSTK:RNRL 29OCT2008 M at Rs.67.00 VALIDITY: DAY For PRO CONFIRMED".

Order Modifications

The screenshot displays the ODIN Client software interface. At the top, the title bar reads "ODIN Client Ver 9.1.0.0(Powered by FT-Engines) F&O Id: 58P CNX Nifty 3948.45 (+27.25)". The main window shows the "Orders Book - [AU]" with a table containing one order:

Cl...	Exchange C...	MemberId	Instrument...	Instrument...	Code	Symbol/Scri...	Ser/Exp/Gr...	Strike Price	Option Type	Scrp Name
1	NSE		FUTURES	FUTSTK	64821	RNRL	29OCT2008			RNRL08OCTFUT

Below the table, a status bar indicates: "For Help, All Pro Orders for FUTSTK:RNRL For RL OrderType For NSEFut".

The "Modify Derivatives Order" dialog box is open, showing the following details:

- BUY Type
- Instr Name: RNRL
- Symbol: RNRL
- Expiry Date: 29OCT2008
- Strike Price: 1788
- Opt Type: MF/AON
- Total Qty: 0
- Price: 67.00
- Dis. Qty: 0
- Prof %: 0
- Validity: DAY
- SubBroker: Client
- CP Broker: MF/AON
- Trig Price: MF Qty

At the bottom of the dialog, a message reads: "Message: Modify Order 2008100167586428".

The system tray at the bottom right shows the time as 3:18 PM.

Systems Audit of Stock Brokers CTCL

Order Book Message for modification

The screenshot displays the ODIN Client software interface, which is powered by FT-Engines. The main window is titled "Index View" and shows the "58P CNX Nifty" index with a price of 3949.25 (+28.05). The interface includes a menu bar with options like "File View", "Market Orders", "Bulk Orders", "EX Tools", "Window", and "Help".

The "Orders Book" section shows a list of orders with the following details:

Cl...	Exchange C...	MemberId	TraderId	Instrument ...	Instrument ...	Ser/Exp/Gr...	Strike Price	Option Type	Scrp Name
1	NSE			FUTURES	FUTSTK	29OCT2008			RNRL08OCTFUT

Below the table, a message reads: "For Help All Pro Orders for FUTSTK RNRL for RL OrderType for NSEFut".

The "Derivatives Order Entry" form is visible, with the following fields:

- BUY Type: RL
- Instr Name: NSE
- Symbol: RL
- Expiry Date: 29OCT2008
- Strike Price: 1788
- Opt Type: O
- Total Qty: 1
- Price: 1788
- Pro/CI: PRO
- Dis Qty: 0
- Subbroker: NSE
- Client: RL
- Settler: NSE
- CP Broker: NSE
- Trig Price: N/A
- MF/AON: N/A
- MF Qty: N/A
- Validity: DAY

At the bottom of the screen, a confirmation message is displayed:

03:19:38 PM ORDER : NSE Deriv 2008100167596428 O V BUY RL 1788 FUTSTK RNRL 29OCT2008 N at Rs.67.00 VALIDITY: DAY For PRO CONFIRMED
 Order Submitted.
 03:20:26 PM ORDER : NSE Deriv 2008100167596428 O V BUY RL 1788 FUTSTK RNRL 29OCT2008 N at Rs.66.00 VALIDITY: DAY For PRO MODIFY CONFIRMED

The system clock shows 3:18 PM.

Password encrypted in Database

SQL Server Enterprise Manager - Data in Table 'tbl_DealerMaster' in 'INTEGRATED_ODIN' on '(local)'

sDealerCode	sGroupCode	sFamilyCode	sEMail	sDealerName	sPassWord	cDealerStatus	nTermID	nBrokerage	nLastLogonConnect	sAddress
ADMIN				ADMINISTRATOR	*****	A	1	0	0	
SA				SUPER ADMIN	*****	A	5	0	0	
BCCII					*****	A	-1	0	0	
AAAAA				HEAD OFFICE	*****	A	51	0	0	
*****				PRO	*****	A	-1	0	0	
CHIEF		<NULL>		CHIEF ADMIN	*****	A	5	0	1222852732	
AAAAAB		<NULL>		SAMIR VORA	*****	A	52	0	1222851300	
AAAAAC		AAAAAA		BHAVIN S. TREVAD	*****	A	-1	0	0	

Systems Audit of Stock Brokers CTCL

Registry – Password expiry in 14 days

The screenshot shows the Windows Registry Editor with the following registry values:

Name	Type	Data
(Default)	REG_SZ	(value not set)
BCastTouchlineCount	REG_SZ	6
BCastVersionType	REG_SZ	1
EnableNetzOutQueue	REG_SZ	0
EnableRecoveryQueueSupport	REG_SZ	0
EnableRMSQueryQueueSupport	REG_SZ	1
EnableRMSQueueSupport	REG_SZ	1
EnableRMSThreadMode	REG_SZ	1
EnableRMSWriteQueue	REG_SZ	0
Local-Addr	REG_SZ	0:7777:0
MaxNoOfConnectionsForRouter	REG_SZ	1000
MaxOutPasswords	REG_SZ	6
MaxPasswordChangeInterval	REG_SZ	14
MaxTransactionPasswordChangeInterval	REG_SZ	17
NetzReadQueueName	REG_SZ	.\private\$\netz_in
NetzWriteQueueName	REG_SZ	.\private\$\netz_out
RecoveryQueueName	REG_SZ	.\private\$\recovery_queue
Remote-Addr	REG_SZ	0:0:0
RMSQueryQueueName	REG_SZ	.\private\$\rms_queue
RMSQueueName	REG_SZ	0
RMSWriteQueueName	REG_SZ	200
SendLatestOnly	REG_SZ	0:7777:0
TimeoutLimit	REG_SZ	239.255.255.255:5553:0
UDP-Local-Addr	REG_SZ	
UDP-Remote-Addr	REG_SZ	

The registry path shown in the left pane is: `My Computer\HKEY_LOCAL_MACHINE\SOFTWARE\ODIN\INTEGRATED\ODIN Manager\Server TCP-IP`.

User List I

ODIN Administrator Ver 9.1.0.0 (Powered By FT-Engines)

File View User Control Market Orders Spread EX Tools Window Help

Indices: S&P CNX Nifty 3965.70 (+44.50)

NSE | F | FUTSTK | RNRL | 29OCT2008

Orders Book - [Pending]

User Group Cli... Exchange C... MemberId TraderId Instrument ... Instrument ... Code Symbol/Scr... Ser/Exp/Gr... Strike Price Option Type

For Help All Orders for Z

User List - [ALL]

User...	Gr...	Name	Category	Status	Surv	Surv Au...	PRIME	Trading Allowed	IP Address	Max. Bca...	Order
18038	HO	XYZ	Retail	Active	On	Auto	On	NSE FO	0.0.0.0	NA	NA
HO	HO	HO	Branch	Active	On	Manual	On	NSE EQ AND N...	0.0.0.0	NA	NA
PROC	HO	ABC	Dealer	Active	Off	---	Off	NSE FO	0.0.0.0	0	0
YOKEI	HO	ABC	Dealer	Active	On	Auto	On	NSE FO	0.0.0.0	NA	NA

Filters: All Users

CHIEF

03:19:38 PM ORDER : NSE Deriv For YOKEI, 2008100167586428 BUY 1788 FUTSTK RNRL 29OCT2008 N at Rs:67.00 VALIDITY: DAY For PRO CONFIRMED
 03:20:26 PM ORDER : NSE Deriv For YOKEI, 2008100167586428 BUY 1788 FUTSTK RNRL 29OCT2008 N at Rs:66.00 VALIDITY: DAY For PRO MODIFY CONFIRMED
 03:25:51 PM ORDER : NSE Deriv For YOKEI, 2008100167586428 BUY 1788 FUTSTK RNRL 29OCT2008 N at Rs:66.00 VALIDITY: DAY For PRO CANCELLED

Start | sc... | O... | N... | Su... | Fe... | R... | Pri... | O... | 2 M- | 3:31 PM

Systems Audit of Stock Brokers CTCL

User List II

ODIN Administrator Ver 9.1.0.0 (Powered By FT-Engines) 01 Oct 2008 03:32:10 PM

Market Watch - DIGANT

E... M I T... Symbol	Ser/Exp	Buy ...	Buy...	Sell ...	Sell ...	%...	Last...	High	Low	Open	Close
N...N F	ICIBANK	29OCT2008	525	551.10	551.40	175	2.80	551.10	56...	52...	542... 536...
N...N F	TATAMOTORS	29OCT2008	850	339.65	339.90	475	-1.28	340.00	34...	33...	348... 344...
N...N F	RELCAPITAL	29OCT2008	552	1147...	1148...	2346	-0.13	1148...	11...	10...	115... 114...
N...N F	RELIANCE	29OCT2008	150	1926...	1927...	600	-1.76	1926...	19...	18...	196... 196...
N...N F	RPL	29OCT2008	6700	142.00	142.20	6700	-1.59	142.00	14...	14...	144... 144...
N...N F	RNRL	29OCT2008	1788	72.35	72.40	3576	-2.10	72.30	74...	70.95	74.20 73.85

Indices: S&P CNX Nifty 3959.50 (+38.30)

Order ... | Alias D... | Pin... | Branch ... | NSE Cash... | NSE Cash... | Deriv CTC... | Deriv CTC... | BSE Cash... | BSE Cash... | MCX CTC... | MCX CTC...

Order: NA | 1B038 400028 | DADAR
 NA | 0 | XYZ 400028 | DADAR | 003 | 001

Filters: All Users

03:19:38 PM ORDER : NSE Deriv For YOKEL, 2008100167586428 BUY 1788 FUTSTK RNRL 29OCT2008 N at Rs:67.00 VALIDITY: DAY For PRO CONFIRMED
 03:20:26 PM ORDER : NSE Deriv For YOKEL, 2008100167586428 BUY 1788 FUTSTK RNRL 29OCT2008 N at Rs:66.00 VALIDITY: DAY For PRO MODIFY CONFIRMED
 03:25:51 PM ORDER : NSE Deriv For YOKEL, 2008100167586428 BUY 1788 FUTSTK RNRL 29OCT2008 M at Rs:66.00 VALIDITY: DAY For PRO CANCELLED

3:32 PM

User List III

The screenshot displays the ODIN Administrator interface. The top menu bar includes 'File', 'View', 'User Control', 'Market Orders', 'Spread', 'EX Tools', 'Window', and 'Help'. The main window is titled 'Market Watch - DIGANT' and shows a table of market data for various stocks. A 'User List - [ALL]' window is open, displaying details for users 'NSE FO' and 'NSE EQ.AND...'. The system tray at the bottom shows the time as 03:32:27 PM on 01 Oct 2008.

Symbol	Ser/Exp	Buy ...	Buy...	Sell ...	Sell...	%...	Last...	High	Low	Open	Close
N...N F	29OCT2008	2100	551.00	551.60	3500	2.85	551.40	56...	52...	542...	536...
N...N F	29OCT2008	425	339.90	339.95	425	-1.28	340.00	34...	33...	348...	344...
N...N F	29OCT2008	690	1146...	1146...	1242	-0.23	1146...	11...	10...	115...	114...
N...N F	29OCT2008	75	1923...	1924...	150	-1.86	1924...	19...	18...	196...	196...
N...N F	29OCT2008	3350	142.00	142.10	1675	-1.59	142.00	14...	14...	144...	144...
N...N F	29OCT2008	3576	72.25	72.35	1788	-2.10	72.30	74...	70.95	74.20	73.85

in	Login Allowed	User Creation Time	Participant Type	Mode of Connection	Product Type
NSE FO		09/07/08 : 17:14:11			Margin
NSE EQ.AND...		03/07/09 : 04:52:08		Diet, Net.net, iWin	Margin
NSE FO		20/06/08 : 08:33:19			Margin

Filters : All Users

03:19:38 PM ORDER : NSE Deriv For YOKEI, 2008100167586428 BUY 1788 FUTSTK RNRL 29OCT2008 N at Rs.67.00 VALIDITY: DAY For PRO CONFIRMED
 03:20:26 PM ORDER : NSE Deriv For YOKEI, 2008100167586428 BUY 1788 FUTSTK RNRL 29OCT2008 N at Rs.66.00 VALIDITY: DAY For PRO MODIFY CONFIRMED
 03:25:51 PM ORDER : NSE Deriv For YOKEI, 2008100167586428 BUY 1788 FUTSTK RNRL 29OCT2008 N at Rs.66.00 VALIDITY: DAY For PRO CANCELLED

Systems Audit of Stock Brokers CTCL

Circuit Limit Failure I

The screenshot displays the ODIN Client Ver 9.1.0.0 interface, which is powered by FT-Engines. The main window shows a 'Derivatives Order Entry' form with the following details:

- BUY Type: RL
- Instrument Name: NSE
- Symbol: RL
- Expiry Date: 29OCT2008
- Strike Price: 3962.90
- Opt. Type: O
- Total Qty: 1
- Price: 3962.90
- Prot. %: 0
- O/C: 0
- Dis. Qty: 0
- Validity: DAY
- CP Broker: MF/AON
- Trig Price: 3962.90
- MF Qty: 1
- Client: 64824
- Settler: RNRL
- Instrument: FUTSTK
- Code: 64824
- Symbol/Script: RNRL
- Strike Price: 3962.90
- Option Type: O
- Script Name: RNRL08OCTFUT

The status bar at the bottom indicates: "For Help: All Orders for All Securities for ALL OrderType for All".

The system tray at the bottom right shows the time as 3:34 PM and the date as 29 OCT 2008. A message box is visible in the background with the following text:

03:32:39 PM [NSE Derivatives] MARKET WIDE LIMIT FOR PARSWATH IS 7265160. OPEN POSITIONS IN PARSWATH HAVE REACHED 84 PERCENT OF THE MARKET WIDE LIMIT.
03:32:39 PM [NSE Derivatives] MARKET WIDE LIMIT FOR PARSWATH IS 7265160. OPEN POSITIONS IN PARSWATH HAVE REACHED 84 PERCENT OF THE MARKET WIDE LIMIT.
03:32:39 PM [NSE Derivatives] MARKET WIDE LIMIT FOR PARSWATH IS 7265160. OPEN POSITIONS IN PARSWATH HAVE REACHED 84 PERCENT OF THE MARKET WIDE LIMIT.
03:32:39 PM [NSE Derivatives] MARKET WIDE LIMIT FOR PARSWATH IS 7265160. OPEN POSITIONS IN PARSWATH HAVE REACHED 84 PERCENT OF THE MARKET WIDE LIMIT.

Circuit Limit Failure II

The screenshot displays the ODIN Client Ver 9.1.0.0 interface. At the top, the title bar reads "ODIN Client Ver 9.1.0.0(Powered By FT-Engines) F&O Id: 2901". The menu bar includes "File View Market Orders Bulk Orders EX Tools Window Help".

The main interface is divided into several sections:

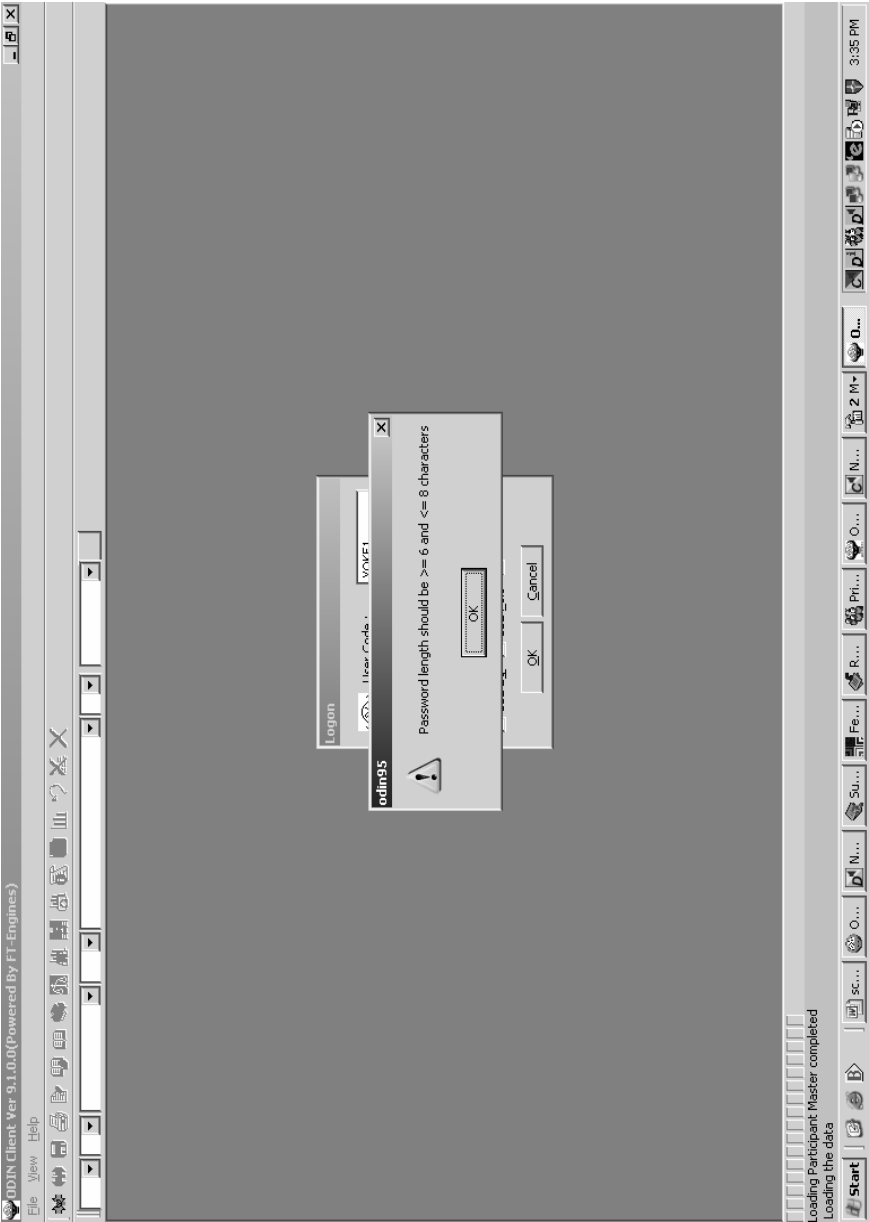
- Index View:** Located at the top right, it shows "S8P CNX Nifty" with a price of "3965.35 (+44.15)".
- Orders Book - [All]:** A table displaying order details:

me	Price	Total Qty	Pr...	Client	Client Name	Exch. Ord.No.	Status
XCTFUT	1788	1788	1788	PRO	2008100167586428	1788	Cancelled
- Derivatives Order Entry:** A central window with various input fields:

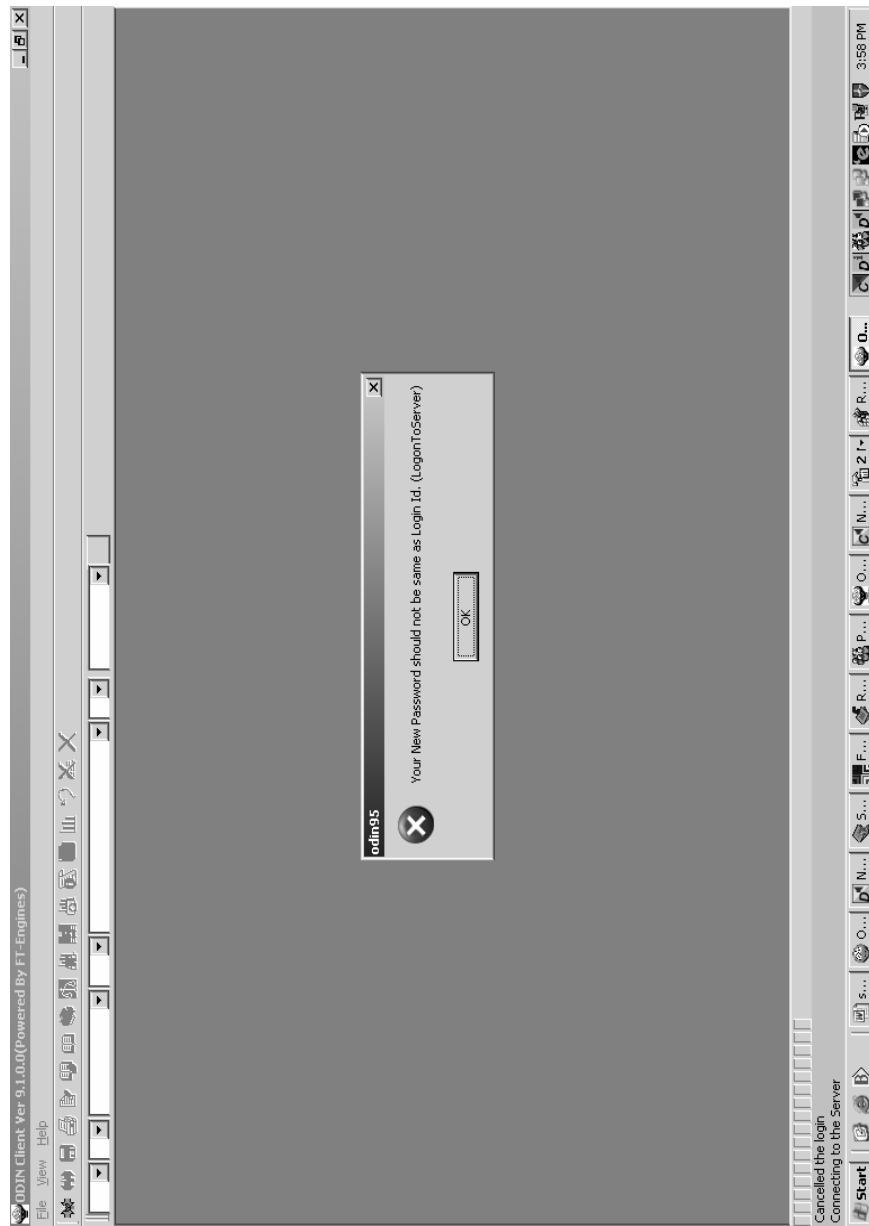
BUY	Type	Instr Name	Symbol	Strike Price	Expiry Date	Opt. Type	Total Qty	Price	Prot. %	O/C	Dis. Qty	Pro/Cl
NSE	RL	NSE Derivatives	NSE Derivatives							0		PRO

 Below the fields are sections for "SubBroker", "Client", "Settler", "CP Broker", "Trig Price", "MF/AON", "MF Qty", "Validity", and "Day".
- Message:** A window at the bottom right showing a timestamped message: "03:32:39 PM [NSE Derivatives] MARKET WIDE LIMIT FOR GTL IS 10564870. OPEN POSITIONS IN GTL HAVE REACHED 78 PERCENT OF THE MARKET WIDE LIMIT." and "03:32:39 PM [NSE Derivatives] MARKET WIDE LIMIT FOR PARSYNATH IS 7265160. OPEN POSITIONS IN PARSYNATH HAVE REACHED 84 PERCENT OF THE MARKET WIDE LIMIT." The system clock shows "3:35 PM".

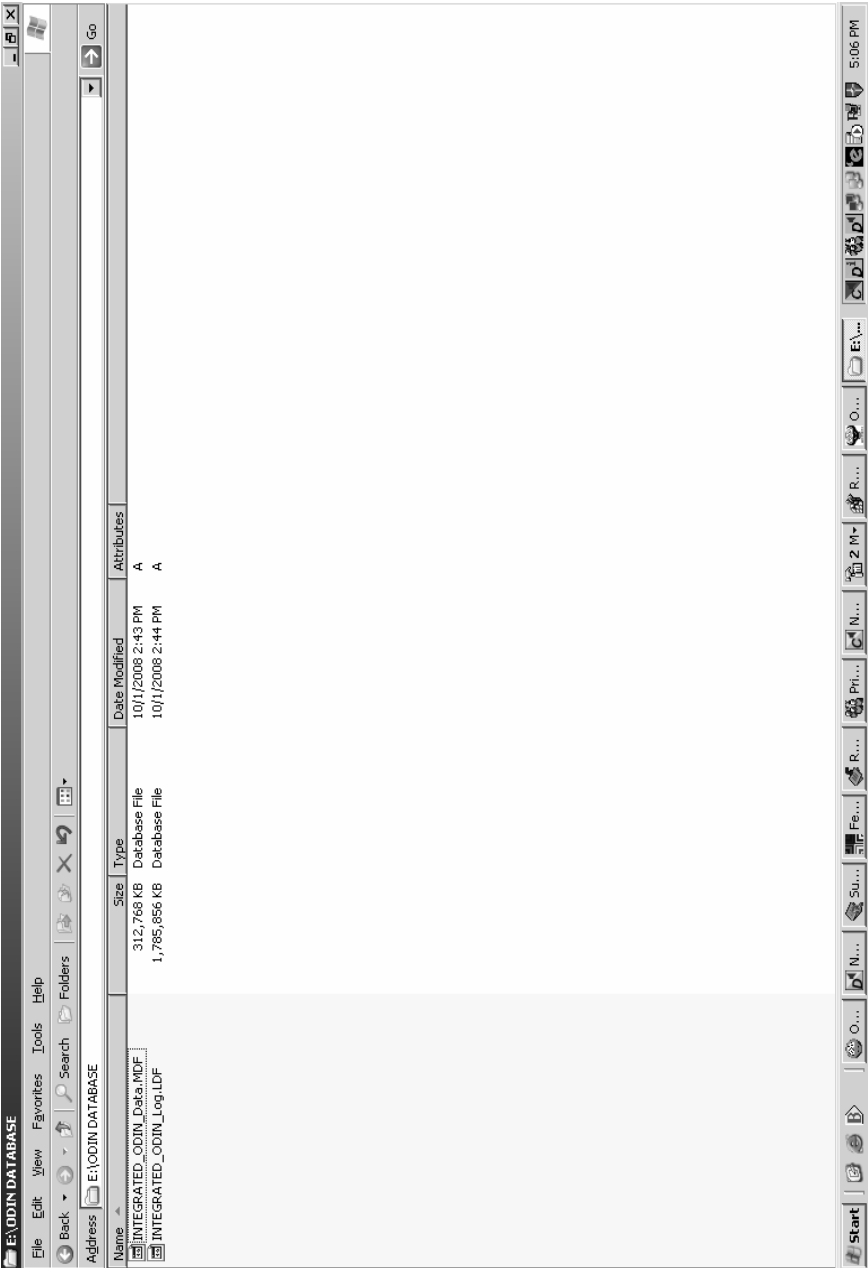
Password Length



Login ID Password cannot be same



Database Updation



Annexure IV

Important NSE Circulars

NATIONAL STOCK EXCHANGE OF INDIA LTD CAPITAL MARKET OPERATIONS

CIRCULAR

Ref. No. NSE/CMO/0013/2000

Download No: NSE/CMT/1641

Date: May 12, 2000

COMPUTER TO COMPUTER LINK (CTCL) FACILITY

National Stock Exchange of India (NSE) has offered a facility to its members by which members would be allowed to use their own trading front-end software in order to trade on the NSE trading system (NEAT). This Computer-to-Computer Link (CTCL) facility is available only to trading members of NSE.

About the CTCL Facility

Members can use their own software running on any suitable hardware/software platform of their choice. This software will be a replacement of the NEAT front-end software that is currently used by members to trade on the NSE trading system. Members would be able to customise the software to meet their specialised needs, like provision of on-line trade analysis, risk management tools, integration of back-office operations etc. The dealers of the member may trade using the software, remotely through the member's own private network, subject to approvals from Department of Telecommunication etc. as may be required in this regard.

NSE will, however, provide only a single user id per VSAT for the purpose of CTCL. Additionally, members shall not be permitted to use the Corporate Manager and Branch Manager user ids for the purpose of CTCL.

Trading members shall be responsible to create the entire CTCL set-up at their offices and registered dealers/branch premises. This would include procurement of application software, hardware, setting up a network etc. The Exchange shall provide the required technical details of the connectivity of the CTCL server to the NSE trading system and other technical support.

Systems Audit of Stock Brokers CTCL

CTCL undertaking

Members wishing to avail of the CTCL facility are required to submit an undertaking in the specified format. The format of the undertaking and instructions to execute the same are enclosed in Annexures A and B respectively.

CTCL software

Members may procure the CTCL software from approved software vendors who are empanelled with NSE or they may develop the software through their own in-house development team or may procure the software from other non-empanelled vendors.

Members are fully responsible to procure/develop the CTCL application including procurement of computer hardware. The Exchange shall help members to establish the computer to computer link, however, the members are fully responsible to implement the solution at their end. It may be noted that members are solely responsible for all the contracts they enter into with any CTCL vendor. The Exchange shall not be liable for any loss, damage or other costs arising in any way out of the failure of the system.

Charges

The following fees / charges are payable for availing the CTCL facility:

No	Category	Charges
1.	Members procuring CTCL software from empanelled vendors.	No charges
2.	Members procuring CTCL software from non-empanelled vendors / developing the software through in-house teams	<ul style="list-style-type: none">▪ Onetime fee of Rs.3.50 lakhs▪ Annual fees of Rs.1 lakh p.a.

The financial year shall be considered as the basis for the yearly period for the recurring charges. The charges (one time charge and recurring charge for the first year) shall be payable at the time of the application for the CTCL facility. In respect of the members who make an application before October 1st, the charges for the entire financial year of Rs.1 lakh shall be payable. In respect of members

Important NSE Circulars

applying after October, 1st the recurring charge for the first year shall be reckoned on a pro-rata basis.

Procedure for members procuring software from empanelled vendors

On the basis of the technical and support details submitted by vendors and also considering their commitment to develop, maintain and support the CTCL product, the following vendors have been considered suitable for NSE's CTCL implementation:

Vendor Name	Address	Contact Person
M/s NSE.IT Limited.	4 th Floor, Mahindra Towers, RBC, Worli, Mumbai – 400 018	Contact :Mr. V. Hariharan Ph: 022-4972836 / 4960521 Fax : 022-4960518
M/s.Tata Consultancy Services	Air India Building, 11th Floor Nariman Point Mumbai - 400 021	Contact: Mr. Arjun Marphatia Ph: 022-202 4827 Fax : 022-204 0711
M/s Leading Edge Systems Limited	A-1, 51/52, Godrej Soaps Complex, Eastern Express Highway, Vikhroli (E), Mumbai – 400079.	Contact : Mr. George Kurian Ph: 022-5175346/47/49 Fax: 022-5181021
M/s IBM Global Services India Pvt. Ltd.	“Golden Tower” Airport Road Bangalore – 560 017	Contact : Mr. Pramod Gupta Ph: 080-5262355 / 5267117 Ext. 2651 Fax : 080-526 6556
M/s.Financial Technologies (India) Pvt. Ltd. (formerly JCS Ltd.)	2 nd Floor, Krishna Bhavan 67 Nehru Road, Vile Parle (E), Mumbai – 400 067	Contact : Mr. Madhav Pai Ph: 022-617 1107 / 1079 Fax : 022-617 1117

Systems Audit of Stock Brokers CTCL

Members may contact the above empanelled CTCL vendors to negotiate the prices for the CTCL solutions as per their requirements.

Members desirous of using the software provided by empanelled vendors shall be required to give, in addition to the above undertaking, a letter from the empanelled vendor confirming that the CTCL software is being procured from them.

On submitting the undertaking as per prescribed format and receipt of confirmation from the CTCL vendor, a user id on the Exchange's test environment shall be provided to the member for the purpose of testing

The member is required to test the software on the NSE trading test environment during a pre-specified time so as to enable the Exchange to monitor the same. The test cases for the final testing shall be provided by the Exchange. On satisfactory completion of testing on the Exchange test environment, the user id specified by the member would be activated for CTCL facility on live environment.

Procedure for members procuring software from non-empanelled vendors / developing in-house CTCL software

Members desirous of using the software provided by non-empanelled vendors / developing in-house CTCL software shall be required to give the above undertaking.

On submission of the above undertaking and payment of the one time charge of Rs.3.50 lakhs and advance payment of annual support charge of Rs.1 lakh for the first year, the Exchange shall provide the technical specifications (message formats/protocols etc) i.e. APIs for the interface with the Exchange's trading system. A user id on the Exchange's test environment shall be provided to the member for the purpose of testing.

On completion of the development of the software, the member is required to test the software on the NSE trading test environment during a pre-specified time so as to enable the Exchange to monitor the same. The test cases for the final testing shall be provided by the Exchange. On satisfactory completion of testing on the Exchange test environment, the member would be required to give a demonstration of the software to the Exchange.

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On finding the software to be satisfactory, the Exchange shall approve the same and enable the user id specified by the member for the CTCL facility on live environment.

Testing facility provided by NSE for testing CTCL software

The Exchange provides a facility to members for testing their CTCL software on the Exchange's testing environment. The facility can be availed by the members for the following:

1. For testing of the CTCL software being developed by their in-house development teams / non-empanelled vendors.
2. For familiarisation with the CTCL software procured from empanelled vendors before going live, such time period for familiarisation being restricted to three months.

Members can avail of the testing environment of the Exchange only till the Exchange approves their software. Subsequent to the members being granted permission by the Exchange to commence trading on live environment using their CTCL software, the test user id(s) given to them on the testing environment shall be disabled.

Members wishing to avail of the test facility subsequent to being granted approval to commence trading on live environment shall be permitted to do so, on a case-to-case basis, subject to the following:

1. Members shall be required to apply for the test facility giving broadly the reason for requiring the test facility, duration for which the test facility would be required, nature of the changes to the software, new functionalities proposed etc.
2. The member shall be required to give a comprehensive demonstration of the modified software on completion of testing.

The Exchange shall allot not more than two user ids per member on the Exchange test environment. The user ids shall be disabled at the end of the testing period requested by the member.

Systems Audit of Stock Brokers CTCL

Members may contact the following NSE officials for any further clarifications.

Name:	Ms.Bhooma Varadrajan	Mr.Shibu Nair
Department:	Capital Market	Capital Market
Tel. No.:	4953200	4947122

For National Stock Exchange of India Ltd.

R. Sundararaman

Asst. Vice President

ANNEXURE A – CTCL UNDERTAKING

I / We _____, an individual /a firm registered under the Indian Partnership Act, 1932 / a Company / body corporate incorporated under the Companies Act of 1956 / _____ Act, 19__, and residing at / having our registered office at _____

_____ - give this UNDERTAKING on this the _____ day of _____ 2000 at _____ IN FAVOUR of National Stock Exchange of India Limited, a company incorporated under the Companies Act of 1956, with its registered office at Exchange Plaza, Bandra - Kurla Complex, Bandra (E) Mumbai – 400 051 (hereinafter called “NSEIL”)

WHEREAS,

- a) NSEIL has provided the National Exchange for Automated Trading (NEAT) software to enable its Trading Members to trade.
- b) In addition, NSEIL provides a Computer To Computer Link (hereinafter referred to as the “CTCL facility”) by which it provides a facility for order entry, receipt of order and trade confirmation and also for receipt of the data relating to its trade quotations.
- c) NSEIL has decided that it shall make the CTCL facility available to its Trading Members on case to case basis, subject to such terms and conditions as NSEIL may impose and one of the conditions is that they execute an undertaking in its favour in the format prescribed by it and agree to provide the said facility only to such persons (hereinafter referred to as the "Approved Persons") as NSEIL may permit and also agree to abide by and be bound by the various terms and conditions which it may prescribe in this regard from time to time.
- d) I/We have been admitted to the Trading Membership of NSEIL, and am/are desirous of availing the CTCL facility by fulfilling all the terms and conditions as may be prescribed by NSEIL from time to time at its discretion in this regard.

NOW, THEREFORE, IN CONSIDERATION OF NSEIL having agreed to allow me / us to avail the CTCL facility, I / we hereby IRREVOCABLY AND

Systems Audit of Stock Brokers CTCL

UNCONDITIONALLY UNDERTAKE and agree to abide by and be bound by the following terms and conditions.

1. That I / we shall make the CTCL facility available to the Approved Persons only after obtaining the prior written consent of NSEIL and subject to such terms and conditions as may be prescribed by NSEIL from time to time.
2. That in addition to such terms and conditions as may be prescribed under clause (1) by NSEIL, all the provisions of the Byelaws, Rules, Regulations and Circulars relating to use and operation of the NEAT Trading System shall also mutatis mutandis become applicable to the use and operation of the CTCL facility.
3. That notwithstanding anything contained in this Undertaking all my / our liabilities and obligations as a Trading Member of NSEIL shall not be affected nor shall be prejudiced in any manner whatsoever.
4. That without prejudice to the generality of the clause (3) of this Undertaking, I / we shall be responsible to settle all the trades executed by the Approved Persons on my / our behalf whether such trades were executed with or without my permission / knowledge and that I shall be bound to complete / fulfill all my / our obligations / liabilities / commitments arising due to the trades executed by the Approved Persons on my / our behalf.
5. That NSEIL, at its discretion, may make the CTCL facility available to me / us at NSEIL's address first mentioned above or at any other address as NSEIL from time to time may notify to me / us or approve as being the location (hereinafter referred to as the Receiving Premises).
6. That I / we shall use the physical communication link (s) provided to me / us, for the purpose of having a simultaneous access to both the CTCL facility and NEAT System.
7. That NSEIL, at its absolute discretion, may make the CTCL facility available to me / us only from the date of my / our enablement on the CTCL facility till such time as it may deem fit and further that the CTCL facility may at any time be withdrawn by NSEIL at its discretion without giving me / us any notice or any reasons whatsoever.
8. That the CTCL facility if made available to me / us by NSEIL will be made available to me / us by NSEIL on a non-exclusive basis only and that the same may be made available by NSEIL, at its discretion, to any other

Important NSE Circulars

Trading Member whomsoever on such terms and conditions as it may deem fit.

9. That I / We may be entitled by giving one month's written notice to request NSEIL to withdraw the CTCL facility extended to me / us and such withdrawal shall be subject to such terms and conditions as may be prescribed by NSEIL including payment of such compensation to NSEIL as may be decided by NSEIL at its discretion.
10. That I / We shall be responsible and take all such steps, actions and proceedings to ensure and keep ensured that no Approved Persons in any way further makes the CTCL facility available to any other person nor shall extend the CTCL facility outside his/new premises and that in case I / We fail to ensure the same, NSEIL shall be empowered to take such action as it may deem fit, which action may include disabling me / us from having access to CTCL facility, and taking of such disciplinary actions as it may deem fit.
11. I / we undertake that
 - i. except VSATs, I / we shall at my / our own expenses provide all lines, cabling, software, hardware, equipment and other communication facilities required for transmission of the data between the Receiving Premises and my / our server at my / our office and also obtain the necessary approvals from relevant authorities.
 - ii. I/We shall ensure that the connectivity of the CTCL facility is as per the NSEIL and Department of Telecommunications (DoT) and/or Mahanagar Telephone Nigam Limited (MTNL) and/or any other appropriate governmental / statutory authority approved network diagram and that I/we shall produce the necessary approvals to NSEIL in order to meet one of its requirements for enabling me/us for having access to the CTCL facility.

I/We undertake to ensure that access shall be given only to Approved persons and also a method shall be established to ensure that non Approved persons cannot access the system.

- iii. I/We undertake to pay any such license fees/charges/royalties as may be levied by DoT/MTNL/NSEIL/any other regulatory/statutory authorities from time to time.

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NSEIL fees for using the CTCL facility shall be paid in advance as follows:

- a) CTCL Facility through NSEIL empanelled vendors: NIL
- b) CTCL Facility through non-empanelled vendors:
 - One-time entry fee of Rs.3.5 Lakhs (Rupees Three Lakhs fifty thousand only).

AND

- A recurring fees of Rs.1.0 Lakhs (Rupees One Lakh only) per annum.
- iv. I / we shall ensure that data communication lines between the NSEIL's equipment and my / our equipment will be connected to my / our own and further telecommunication network will be as per the NSEIL and DoT and/or MTNL and/or any other appropriate governmental / statutory authority approved network diagram.
 - v. I / we shall indemnify the Exchange the against any loss or damage including the liabilities arising out of the failure to comply with Clause (v) above.
 - vi. I / we shall provide NSEIL with the Network diagram as described in Schedule No.1 and as adopted by me / us for having access to the CTCL facility between the Receiving Premises and my / our server at my / our office and that we shall also provide NSEIL with the new network diagram as and whenever any changes are made to the existing Network diagram with the prior written permission of NSEIL.
 - vii. I / we shall notify NSEIL giving the details related to the Approved Persons as per such format as described in the Schedule No.2 attached hereto for prior approval of NSEIL and shall acquire the prior written permission from NSEIL for every additional Approved Person taken subsequently before letting him / her have access to the CTCL facility, further in case an Approved Person is disabled from acting in his / her capacity as such for any reason whatsoever, then I / we shall acquire the prior written permission from NSEIL before appointing any other individual to act as an Approved Person in his / her place.

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- viii. I / we shall make the necessary changes in the software used by me / us for accessing the CTCL facility as and when any changes either technical or structural are made by NSEIL in the CTCL facility.
 - ix. I / we shall provide NSEIL with the Technical Specifications for the software used by me / us for accessing the CTCL facility and shall also provide it with the new Technical Specifications for the software as and whenever any changes are made by me / us to the existing software used to access the CTCL facility.
 - x. I / we shall not develop / use any software for accessing the CTCL facility, which software in the opinion of NSEIL shall resemble or result in duplication of NEAT software in any manner and further that no representation shall be made by me / us that the software developed by me / us for accessing the CTCL facility is part of the NEAT software.
 - xi. I / we shall not assign or otherwise transfer the rights and obligations arising out of the use of the CTCL facility and this Undertaking whether in whole or in part without the prior written consent of NSEIL.
 - xii. I / we agree not to use, without the express permission of NSEIL, the name of NSEIL to directly or indirectly promote my/ our business.
 - xiii. I / we shall not, either by myself / ourselves or through any person acting on my / our behalf, issue / release / publish any advertisement, brochure, pamphlet, booklet, notice or any other promotional material on any aspect relating to the CTCL facility in any form, whether in writing or otherwise, in accordance to the Code of Advertisement as prescribed by the NSEIL except with the prior written approval of NSEIL.
12. I/we agree that NSEIL, does not warrant that the provision of the CTCL facility will be error free or uninterrupted.
13. I / we undertake and agree that
- i. I / we shall maintain all systems logs and make the same available for inspection by NSEIL at any time at its discretion. -
 - ii. I / we shall not under any circumstances match the respective orders entered in by my / our Approved Persons from their terminals by myself / ourselves by using any means whatsoever and that I / we shall route all the orders entered in by my / our Approved Persons to the Trading

Systems Audit of Stock Brokers CTCL

System of NSEIL so that they could be matched by the Central Computer of NSEIL only.

- iii. I/We shall ensure that the following guidelines issued by SEBI committee on Internet based securities trading and services would be adhered to :
- System used by me / us has a provision for security, reliability and confidentiality of the data through the use of encryption technology.
 - I / We shall maintain adequate backup systems and data storage capacity and also arrange for alternative means of communications in case of Internet Link failure.
 - Order/Trade confirmation shall be sent to the investor through email at client's discretion at the time period specified by the client in addition to the other mode of display of such confirmations on a real time basis on my/our web site. The investor shall be allowed to specify the time interval on the web site itself within which he/she would like to receive this information through email. Facility for reconfirmation of orders which are larger than that specified by the member's risk management system shall be provided on the Internet based system
 - I / We shall ensure to have a system based control on the trading limits of clients and exposures taken by clients and also set pre-defined limits on the exposure and turnover of each client. The system will also be capable of assessing the of the client as soon as the order comes in. The client also to be informed of the acceptance/rejection of the order within a reasonable period. Reports on margin requirements, payment and delivery obligations etc to be informed to the clients through the system.
 - I/We shall ensure that the following security measures shall be in-built in the system :
 - User Id
 - First Level Password (Private Code)
 - Automatic expiry of passwords at the end of a reasonable duration. Reinitialise the access on entering fresh passwords.

Important NSE Circulars

- All transaction logs with proper audit facilities to be maintained in the system.
 - Secured Socket Level Security for server access through Internet.
 - Suitable Firewalls between trading set-up directly connected to an Exchange trading system and the Internet trading set up.
 - Shall integrate any advanced level security as specified by NSE/SEBI from time to time.
 - The following systems operations procedures will be adhered to :
 - Shall follow similar logic/priorities used by the Exchange to treat client orders.
 - Shall maintain all activities / alerts log with audit trail facility.
 - The Web-server shall have an internally generated unique numbering for all client orders/trades
- iv. I / We shall ensure that on-line surveillance and risk management features like trade-by-trade Position Monitoring etc., shall be inbuilt in the CTCL facility and it shall be flexible to change as per SEBI guidelines.
- v. I / we shall not develop or use any software / program facility which shall either directly or indirectly facilitate program trading. For the purpose of this clause the term 'Program Trading' shall mean any software or program facility by the use of which, upon the fulfillment of certain specified parameters, without the necessity of manual entry of orders, buy/sell orders are automatically generated and entered by the software / program facility into the Trading System of NSEIL to be matched by the central computer.
- vi. I / we shall not develop or use any software / program which shall either directly or indirectly facilitate orders to cross trades of their clients with each other. All orders shall be offered to the market for matching.
- vii. NSEIL shall be possessed with the absolute right to inspect the internal software used / being utilised me / us at any time at its discretion.

Systems Audit of Stock Brokers CTCL

- viii. I / we shall render all possible assistance and cooperation to NSEIL by providing access to any kind of information in any form as it may require and shall produce such documents, records, accounts, books, data howsoever stored including the data stored in magnetic tapes, floppy diskettes, etc. and any other information as may be required by NSEIL at its discretion.
14. That after the completion of the necessary test and after completely satisfying myself / ourselves that the CTCL facility is fault free, I / we shall submit an Acceptance Certificate in the format as specified by NSEIL in partial fulfillment of one of the conditions of NSEIL for my / our enablement for having access to the CTCL facility.
15. That NSEIL shall not be liable for any direct or indirect damage, costs, claims and expenses whatsoever :
- i. arising from a mechanical or electrical or telephone or network breakdown or power failure or malfunction of any computer and / or / our server and / or any other auxiliary equipment or any other cause beyond the reasonable control of NSEIL.
 - ii. based upon special indirect economic or consequential loss or damage including, but not limited to the loss of profit, business revenue, opportunity costs, goodwill or anticipated savings; or
 - iii. caused or contributed to by any event of force majeure. For purposes of this Clause, "Force Majeure" means and includes wars, insurrections, revolution, fires, floods, epidemic quarantine restrictions, declared general strikes in relevant industries, act of God, act of the Government of India and any concerned State Government and such other acts or events beyond NSEIL's control, and further the above is without prejudice to the rights already accrued to NSEIL due to my / our failure to perform either in full or in part, my / our obligations prior to the occurrence of events of Force Majeure.
 - iv. Or any other nature or type.
16. That NSEIL shall not be responsible for development, maintenance, updates, upgrades, error-fixes and any other support of my / our software for accessing the CTCL facility and shall not be liable for any loss suffered by me / us due to the use of the software for accessing the CTCL facility.

Important NSE Circulars

17. That neither NSEIL nor the directors, managers, officers, employees or agents of NSEIL, guarantee the functioning of the CTCL facility. NSEIL and the directors, managers, officers, employees and agents of NSEIL shall not be liable in any way to me / us or to any of my / our Approved Persons or to any other person, for any non performance or interruption of CTCL facility or for any damages, consequential or otherwise, arising therefrom or occasioned thereby. No proceedings would be adopted by me / us or any third party against NSEIL nor against any individual officer or employee of NSEIL for any act done by such officer or employee of NSEIL in their official capacity.
18. I / we shall indemnify and keep indemnified NSEIL harmless against every and all claims, demand, damages, liabilities, losses and expenses suffered by it directly by reason of the provision of the CTCL facility to me / us or by reason of my / our non compliance, contravention with the any of the provisions of this Undertaking.
19. That this Undertaking is applicable not only in respect of the information services and terminal equipment currently offered by me / us to Approved Persons but also in respect of any information services and terminal equipment developed by or for me / us in the future, even if I / we should at any time alter my / our mode of supplying information to Approved Persons provided NSEIL approves in writing of such alteration with all details.
20. That without prejudice to any other right under any law for the time being in force or which may become applicable, NSEIL shall be vested with the exclusive right, upon my / our non-compliance with any of the terms and conditions of this Undertaking or upon the termination, suspension of my / our trading membership or upon my / our ceasing to be a Trading Member of NSEIL, to take, at its discretion, such actions, steps, proceedings, measures, decisions within such period of time and upon such terms and conditions as it may deem fit and that any such actions, steps, proceedings, measures, decisions may, inter alia, include denial of access to the CTCL facility and / or take such disciplinary actions as it deems fit. I / we further undertake that I / we shall abide by and be bound by any actions, steps, proceedings, measures, decisions as may be taken by NSEIL.
21. That no forbearance, delay or indulgence by NSEIL in enforcing the provisions of this Undertaking shall prejudice or restrict the rights of NSEIL nor shall any waiver of its rights operate as a waiver of any subsequent breach and no right, power or remedy herein conferred upon or reserved for

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NSEIL is exclusive of any other right, power or remedy available to NSEIL and each such right, power or remedy shall be cumulative.

22. I / we shall treat as confidential all information obtained from NSEIL pursuant to the arrangement and shall not divulge such information to any person (except to my / our own employees and then only to those employees who need to know the same) without the NSEIL prior written consent and that I / we shall also ensure that my / our employees are aware of and comply with the provisions of this clause. The foregoing obligations as to the confidentiality shall survive any termination of the availability of the CTCL facility.
23. Any declaration or other notice to be given by me / us to NSEIL, shall be sent by a registered letter or telex / cable or facsimile transmission to the address first mentioned above.
24. This Undertaking shall be binding upon my /our heirs, successors, legal representatives and assigns.
25. I shall execute, sign, and subscribe, to such others documents, papers, agreement, covenants, bonds, and / or undertakings as may be prescribed or required by NSEIL from time to time.

IN WITNESS WHEREOF this Undertaking is executed by the undersigned on the day, month, year and the place first mentioned above.

Signed by, for and on behalf of:

Before me

Annexures to Undertaking

SCHEDULE I – NETWORK DIAGRAM

(Kindly enclose your network architecture)

SCHEDULE II

List of Approved Persons for CTCL (in the following format)

1. Name of Person
Designation
Company name
Full Address
Tel No.
Fax No .

ANNEXURE B – INSTRUCTIONS FOR CTCL UNDERTAKING

1. The Undertaking is to be executed on a non-judicial stamp paper worth Rs.100/- if executed in the State of Maharashtra. If this Undertaking is executed outside the State of Maharashtra, then it must be executed on a non judicial stamp paper stamped in accordance to the duty as payable in the place of execution or on a non-judicial stamp paper worth Rs.100/- whichever is higher.
2. Further, this Undertaking (including all annexures / schedules) has to be notarised before a Notary Public.
3. Please use the enclosed format. **Please do not retype the Undertaking.**
4. Please type the following on the non-judicial stamp paper as the first page and sign.

The non-judicial stamp paper of Rs. _____ forms part and parcel of this Undertaking executed by me/us Mr./Mrs/M/s. _____ having my/our residence/office at _____ on this the _____ day of _____ 2000 at _____ IN FAVOUR of National Stock Exchange of India Limited.

Signature**

(**to be signed by the person(s) signing the Undertaking)

5. All the pages of this Undertaking (including all annexures / schedules) have to be signed in full. The persons signing should also sign in full at all places in the Undertaking where anything has been hand-written / any corrections have been made.

If the Trading member is an individual, then the Undertaking has to be signed by the individual Trading member himself. If the Trading member is a firm, then ALL the partners are required to sign this Undertaking. If the Trading member is a company, then the Undertaking has to be signed by the Managing Director or any Director of the company named as an authorised signatory of the company.

Important NSE Circulars

6. If the Trading member is a company, the Undertaking has to be accompanied with a certified copy of the resolution of the Board of Directors of the company, authorising the person(s) executing the undertaking to do so. The Common Seal of the company has to be affixed by the company on this Undertaking in the presence of such persons as authorised by the Articles of Association of the company. The Board Resolution should clearly state that the affixation of common seal shall be made in the presence of such persons as authorised by the Articles of Association of the company and should also clearly state the names of such persons. The above persons should sign the undertaking as a token of their presence when the common seal is affixed.

**NATIONAL STOCK EXCHANGE OF INDIA LIMITED
CAPITAL MARKET OPERATIONS**

Circular No: NSE/CMO/10

Download No: NSE/CMT/3896

Date: January 28, 2003

Free Release of NNF document to members and revision of fee/charge on CTCL

NSE has offered a Computer-to-Computer Link (CTCL) facility to its members. This facility has been further extended to Internet based trading.

To enable the vendors/members to utilise the CTCL / Internet based trading facility, the Exchange provides technical specifications (message formats/protocols etc) for the interface with the Exchange's trading system in the form of a NNF document separately for CM and F&O segments. This document is currently available to those paying the requisite fee.

The NNF documents will now be made available to all members free of cost. The members can utilise the information disseminated by the trading system to build tools for analysis, risk management and decision support for their own trading activities. However, members shall not be permitted to use this for other commercial purposes.

Any interface to the trading system for the purpose of trading or order management will still require the approval of the Exchange as per the current practice.

The fee/charge structure for all existing empanelled vendors / members using the CTCL / Internet Based trading facility is revised w.e.f. April 1, 2003 as below:

No	Category	Fee/Charges
1.	Empanelled vendors (both segments together).	Annual charge of Rs.2.50 lakhs p.a.
2.	Members procuring CTCL / Internet trading software from non-empanelled vendors / developing the software through in-house teams (both segments together).	Annual charge of Rs.50,000/ p.a.

Important NSE Circulars

For fresh applications for empanelment as vendors / members, the revised fees for the applications received after January 1, 2003 will be as under

No	Category	Fee/Charges
1.	Empanelled vendors (both segments together).	One time fee of Rs.10 lakhs Annual charge of Rs.2.50 lakhs p.a.
2.	Members procuring CTCL / Internet trading software from non-empanelled vendors / developing the software through in-house teams (both segments together).	Onetime fee of Rs.1.50 lakhs Annual charge of Rs.50,000/ p.a.

In addition, the members/vendors who have previously paid for Capital market segment and now wish to seek approval for F & O Segment or vice versa shall not be liable to pay the above one time charges.

Vendors / members empanelled for CTCL solutions would not be required to pay additional charges at the time of empanelment for Internet based trading and vice versa.

This circular will be effective with immediate effect.

For National Stock Exchange of India.

Suprabhat Lala

Manager – Capital Markets

Systems Audit of Stock Brokers CTCL

NATIONAL STOCK EXCHANGE OF INDIA LIMITED

CAPITAL MARKET OPERATIONS

Circular No: NSE/CMO/42/2003

Download No: NSE/CMT/4349

Date: August 22, 2003

Dear Members,

Sub: Affidavit –Cum – Undertaking for use of Computer
to Computer (CTCL) Trading

This is in partial modification to Circular no. NSE/CMO/0013/2000 dated May 12, 2000 regarding Computer to Computer Link (CTCL) trading.

Trading Members are well aware that they are not permitted to use any software for trading on NSEIL other than NEAT software or any CTCL software for which the trading member has obtained written a permission from the Exchange. With a view to check unauthorised use of trading terminals through CTCL, trading members are advised to execute the affidavit-cum-undertaking as per Annexure A and submit the same to the Exchange on or before Monday, September 08, 2003. For executing the affidavit-cum-undertaking, please refer to the instructions given in Annexure B.

We would like to reiterate that in case of non-submission of the abovementioned affidavit-cum-undertaking with the requirements as specified herein on or before the specified date, it shall be treated as a violation of the Exchange / SEBI rules / guidelines and accordingly you shall render yourself liable for action as deemed fit by the Exchange, including withdrawal of facility of use of the CTCL.

This circular shall be effective with immediate effect.

For any clarifications, please contact Mr. Dhiraj Khanna / Avinash Mohan on 26598150.

For National Stock Exchange of India.

Suprabhat Lala

Manager – Capital Markets

ANNEXURE A - AFFIDAVIT-CUM- UNDERTAKING

I, _____ son of _____ aged _____, Managing Director/ Partner/ Proprietor (strike off whichever is not applicable) of _____, (name of the company / firm), a member of the National Stock Exchange of India Limited (hereinafter referred to as NSEIL) solemnly declare, affirm, state and confirm on oath as follows:-

1. That M/s..... has been granted approval by NSEIL to adopt CTCL facility using the software developed in-house and / or by a vendor approved by the NSEIL and no modification of any part of the software has been / will be effected without prior approval of the NSEIL.
2. M/s..... has not provided and will not provide in future directly or indirectly any view only terminal and / or trading terminal through CTCL or otherwise, without complying with the NSEIL's Circulars No.282 (download reference No.NSE/MEM/3574) dated 29th August, 2002, No.292 (download reference No.NSE/MEM/3635) dated 25th September, 2002, No.309 (download reference No.NSE/MEM/3740) dated 13th November, 2002, and No.311 (download reference No.NSE/MEM/3758) dated 26th November, 2002, in respect of guidelines for location of CTCL terminals and usage thereof, submission of details of CTCL terminals and granting CTCL terminals by the Trading Members.
3. None of the persons to whom we have provided CTCL terminals in compliance with the aforesaid circulars, has in turn, provided any terminal to any other person / office / premises / address in violation of the aforesaid circulars. I/We also will ensure that in future the CTCL terminals will not be provided to any person etc., in violation of the aforesaid circulars.
4. All the CTCL terminals are installed at the same address and that the approved person is operating the respective CTCL terminal as declared in our submission of details of CTCL terminals to the NSEIL in response to the NSEIL's Circulars No.282 (download reference No.NSE/MEM/3574) dated 29th August, 2002, No.292 (download reference No.NSE/MEM/3635) dated 25th September, 2002 and No.311(download reference No.NSE/MEM/3758) dated 26th November, 2002. I/We will also ensure that the said circulars and circulars that may be issued by the Exchange from time to time in this regard are not violated in any manner.
5. M/s.....will take all necessary steps to ensure that branches and their sub-brokers have not provided extension of any terminal

Systems Audit of Stock Brokers CTCL

connected through VSAT/leased line with the NSEIL by means of any connectivity, viz. dial-up/ leased line/ISDN/ wireless media / otherwise as declared in our application to the NSEIL for providing VSAT/ leased line, in compliance with Regulation 2.1.2 of Part A of the Capital Market Regulations of the NSEIL. I/We also undertake and assure that in future our branches and sub-brokers will not provide extension of any terminal contrary to the contents of our application to NSEIL.

6. M/s.....their branches and their sub-brokers do execute all orders received from constituents and any other persons, in their respective names/ client codes and none of the orders received from constituents is executed as its own under PRO code and/ or under other client codes.
7. M/s.....their branches and their sub-brokers do place all orders received from constituents as per the quantity and price indicated by the constituents, on the trading system of the NSEIL and issue contract notes or purchase/sale notes for the exact quantities for which and at the same prices at which the trades are executed on the NSEIL, except for contract notes issued with weighted average price in case of multiple trades resulting from single order as provided in the NSEIL's circular No.NSE/CMO/14/99 (download reference No.NSE/CMT/1025) dated 15th June, 1999 and also settle the transactions only for those quantities and at those prices.
8. All the constituents to whom trading terminals have been provided by us, either directly or through CTCL, transact only for themselves and not for anybody else and they are not dealing as unregistered intermediaries.

VERIFICATION

I solemnly affirm that all the contents of the aforesaid affidavit are true and correct to the best of knowledge and belief and I have not concealed any material facts.

Place:
Date:

Deponent

ANNEXURE B – INSTRUCTIONS FOR EXECUTING THE UNDERTAKING

1. The Undertaking is to be executed on a non-judicial stamp paper worth Rs.200/- if executed in the State of Maharashtra. If this Undertaking is executed outside the State of Maharashtra, then it must be executed on a non-judicial stamp paper stamped in accordance to the duty as payable in the place of execution or on a non-judicial stamp paper worth Rs.200/- whichever is higher.
2. Further, this Undertaking (including all annexures / schedules) has to be notarised before a Notary Public.
3. Please use the enclosed format. Please do not retype the Undertaking.
4. Please type the following on the non-judicial stamp paper as the first page and sign.

The non-judicial stamp paper of Rs._____ forms part and parcel of this Undertaking executed by me/us Mr./Mrs/M/s._____ having my/our residence/office at _____ on this the _____ day of _____ 2000 at _____ IN FAVOUR of National Stock Exchange of India Limited.

Signature**

(**to be signed by the person(s) signing the Undertaking)

5. All the pages of this Undertaking (including all annexures / schedules) have to be signed in full. The persons signing should also sign in full at all places in the Undertaking where anything has been hand-written / any corrections have been made.

If the Trading member is an individual, then the Undertaking has to be signed by the individual Trading member himself. If the Trading member is a firm, then ALL the partners are required to sign this Undertaking. If the Trading member is a company, then the Undertaking has to be signed by the Managing Director or any Director of the company named as an authorised signatory of the company

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6. If the Trading member is a company, the Undertaking has to be accompanied with a certified copy of the resolution of the Board of Directors of the company authorising the person(s) executing the undertaking to do so. The Common Seal of the company has to be affixed by the company on this Undertaking in the presence of such persons as authorised by the Articles of Association of the company. The Board Resolution should clearly state that the affixation of common seal shall be made in the presence of such persons as authorised by the Articles of Association of the company and should also clearly state the names of such persons. The above persons should sign the undertaking as a token of their presence when the common seal is affixed.

**NATIONAL STOCK EXCHANGE OF INDIA LIMITED
CAPITAL MARKET OPERATIONS**

Circular No: NSE/CMO/58/2003

Download No: NSE/CMT/4451

Date: September 30, 2003

Dear Members,

COMPUTER TO COMPUTER LINK (CTCL) TRADING

This is in continuation of Circular no. NSE/CMO/0013/2000 dated May 12, 2000, Circular No NSE/CMO/07/2003 dated January 21, 2003 and Circular No. NSE/CMO/56/2003 dated September 30, 2003 regarding Computer to Computer Link (CTCL) trading.

The Exchange has decided to allow automated trading softwares subject to the following:

- In accordance with clause 6 of the Undertaking executed by the vendor and clause 11 (vii and x) of the Undertaking executed by trading members, prior written clearance shall be required for any changes in the software.
- Automated trading orders would only be permitted in those securities as may be specified by the Exchange from time to time.
- Automated trading would involve placing an order (s) in a manner that they are placed for execution in the Capital Market and F&O segment simultaneously.
- All automated trading orders need to be placed through unique user ids identified for the Capital Market and the F&O Segments separately, i.e. an user id for Capital Market and an user id for F&O Segment need to be identified and all automated trading orders should be placed in the system through these ids only for the respective segments.
- Trading member should ensure that he has sufficient securities to deliver, whether he is trading on his own and / or client account, while executing a sell transaction in the cash segment and any automated trading resulting in shortages would render the member liable for strict disciplinary action as may be decided by the Exchange, from time to time.

Systems Audit of Stock Brokers CTCL

- The automated trading software should provide for a facility whereby in case the index (S&P CNX Nifty) has fallen by more than the percentage as may be specified by the Exchange from time to time, during the day, the automated trading software should not generate at downtick any sell order and in contrast if the index has gone up by more than the percentage as may be specified by the Exchange from time to time, during the day, the automated trading software should not generate any buy order on an uptick.
- In accordance with the system audit which is being evaluated for the all CTCL softwares, the same shall be extended for any automated trading software and shall be carried out in conjunction with the CTCL audit.
- In addition to the above, the trading members shall be subject to and abide with all Circulars, requirements, conditions, norms, guidelines and / or such terms as may be prescribed or required by NSEIL from time to time and the same shall be applicable ipso facto.

For National Stock Exchange of India.

Suprabhat Lala
Manager – Capital Markets

**NATIONAL STOCK EXCHANGE OF INDIA LIMITED
CAPITAL MARKET OPERATIONS
CIRCULAR**

Circular No.: NSE/CMO/0070/2003

Download No. NSE/CMTR/4540

Date: November 06, 2003

Dear Members,

SUB: PROPRIETARY ACCOUNT TRADING

This is in partial modification to our Circular NSE/CMO/0059/2003 dated October 03, 2003 facilitating Trading Members to place orders on proprietary-account through trading terminals to be extended only at one location of the Trading Members.

In accordance with the requests received from various trading members, the Exchange may, on case to case basis and after due diligence, consider extending the facility of allowing the use of proprietary account to CTCL. Consequently, members requiring the facility of 'proprietary-account' through trading terminals from more than one location and / or CTCL, are required to submit an application (Annexure 1) along with an undertaking (Annexure 2) to the Exchange on or before November 30, 2003.

In addition to the above, the trading members shall be subject to and abide by all Circulars, requirements, conditions, norms, guidelines and / or such terms as may be prescribed or required by NSEIL from time to time and the same shall become applicable ipso facto, upon its notice to the members by the Exchange.

In case of any clarifications, trading members are advised to contact Ms. Varsha D / Mr. Janardhan Gujran at 26598153 and Mr. Jignesh Mehta on 26598156 in this regard.

For and on behalf of

National Stock Exchange of India Ltd.

Suprabhat Lala

Manager (Capital Markets - Operations & Surveillance)

Systems Audit of Stock Brokers CTCL

**Annexure – 1
APPLICATION (On the letter head)**

To,

National Stock Exchange of India Ltd.
Exchange Plaza, Bandra Kurla Complex
Bandra (E), Mumbai – 400 051

I/we, a Trading Member of NSEIL wish to avail of the facility of placing orders on "Pro-account" through trading terminals from more than one location.

In this regard, I/we are furnishing the following details: -

Name of Trading Member along with SEBI registration no: -

Default location where Pro-account is being availed: -

Sr. No.	User id	User Name	Branch Id	Postal Address	Vsat Id No. / Leased Line Id No.		Details of investor Grievances (if any)
					Primary	Back Up	

Details of additional location(s) in respect of which facility of using Pro-account sought: -

Sr. No.	User id	User Name	Branch Id	Postal Address	Vsat Id No. / Leased Line Id No.	Name of the Director (s)/ Partner(s) supervising stationed at the location	Reason	Details of investor Grievances (if any)

Important NSE Circulars

Details of any adverse remarks and/or fines imposed by NSEIL pertaining to any inspection (if any):-

Yours faithfully,

(Name of the Trading Member)*

* If the Trading Member is an individual, then the application has to be signed by the individual Trading Member himself. If the Trading member is a firm, then a partner is required to sign the application. If the Trading Member is a corporate, then the application is to be signed by the Managing Director or any Director of the company named as an authorised signatory of the company.

Annexure - 2

UNDERTAKING FOR AVAILING PROPRIETARY ACCOUNT ORDER ENTRY FACILITY

I/We _____, an individual /a firm registered under the Indian Partnership Act, 1932 / a Company / body corporate incorporated under the Companies Act of 1956 / _____ Act, 19__, and residing at / having our registered office at _____

_____ give this UNDERTAKING on this the _____ day of _____ 2003 at _____ IN FAVOUR of National Stock Exchange of India Limited, a company incorporated under the Companies Act of 1956, with its registered office at "Exchange Plaza", Bandra - Kurla Complex, Bandra (E), Mumbai - 400 051(hereinafter called "NSEIL")

WHEREAS

1. NSEIL provides the National Exchange for Automated Trading (NEAT) software to enable its Trading Members to trade and in addition NSEIL also provides Computer To Computer Link (hereinafter called "CTCL") facility to Trading Members for order entry, receipt of order and trade confirmation and also for receipt of the data relating to its trade quotations.
2. NSEIL, has prescribed that the facility of placing orders on "Pro-account" through trading terminals shall be availed by the Trading Members only at one location of the Trading members as specified / required by the Trading Members; any trading terminal located at a place other than the above location shall have a facility to place order only for and on behalf of a Constituent by entering client code details as required by NSEIL/ SEBI; and In case any Trading Member requires the facility of using "Pro-account" through trading terminals from more than one location, such Trading Member shall request NSEIL stating the reason for using the "Pro-account" at multiple locations.
3. NSEIL has as a precondition to the Undersigned being permitted the facility of using "Pro-account" through trading terminals from more than one location required me/us to furnish the undertaking in the manner and on the terms herein below:-

Important NSE Circulars

NOW THEREFORE IN CONSIDERATION OF NSEIL having agreed to allow me/us at my/our request to avail the Pro-account facility from more than one location, I/we hereby **IRREVOCABLY AND UNCONDITIONALLY UNDERTAKE** and agree to abide by and be bound by the following terms and conditions:-

1. That I/we undertake to enter proprietary orders only from the Pro-account terminals permitted by NSEIL and undertake not to misuse the said "Pro-account" facility and state that the proprietary trades on the Pro-account terminals pertain to proprietary trades and not client trades.
2. That I/we state that our Director(s) / Partner(s) is/are based at the location where the "Pro-account" trading terminals are located. The Pro-account facility shall be made available to the Approved Users only after obtaining the prior written consent of NSEIL and subject to such terms and conditions as may be prescribed by NSEIL from time to time.
3. That I/we undertake not to use the "Pro-account" trading terminals for purposes other than the defined reasons.
4. That I/we undertake to take all such steps and/or precautions to ensure and keep ensured that the 'Pro-account' facility is not extended to a location other than the location of the trading terminals where the "Pro-account" facility is permitted by NSEIL and CTCL terminals shall not be extended beyond the location of such permitted trading terminals.
5. That NSEIL, at its absolute discretion, may make the Pro-account facility available to me / us only from the date of my / our enablement on the Pro-account facility till such time as it may deem fit and further that the Pro-account facility may at any time be withdrawn by NSEIL at its discretion without giving me / us any notice or any reasons whatsoever.
6. That I/we shall execute, sign, and subscribe, to such other documents, papers, agreements, covenants, bonds, and / or undertakings as may be prescribed or required by NSEIL from time to time.
7. That I/we undertake to abide by all the provisions of the Byelaws, Rules, Regulations and Circulars/norms and requirements that may be in force from time to time relating to use and operation of the NEAT Trading System (including use of CTCL software) and that they shall also mutatis mutandis become applicable to the use and operation of the Pro-account facility.

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8. That I/we undertake to render all possible assistance and cooperation to NSEIL by providing all information in any form as it may require and shall produce such documents, records, accounts, books, data howsoever stored including the data stored in magnetic tapes, floppy diskettes, etc. and any other information as may be required by NSEIL at its discretion.

IN WITNESS WHEREOF this Undertaking is executed by the undersigned on the day, month, year and the place first mentioned above.

Signed by, for and on behalf of: Before me

ANNEXURE – INSTRUCTIONS FOR UNDERTAKING

1. The Undertaking is to be executed on a non-judicial stamp paper worth Rs.20/- if executed in the State of Maharashtra. If this Undertaking is executed outside the State of Maharashtra, then it must be executed on a non judicial stamp paper stamped in accordance to the duty as payable in the place of execution or on a non-judicial stamp paper worth Rs.20/- whichever is higher.
2. Further, this Undertaking (including all annexures / schedules) has to be notarised before a Notary Public.
3. All the pages of this Undertaking (including all annexures / schedules) have to be signed in full. The persons signing should also sign in full at all places in the Undertaking where anything has been hand-written / any corrections have been made.

If the Trading Member is an individual, then the Undertaking has to be signed by the individual Trading Member himself.

If the Trading member is a firm, then ALL the partners are required to sign this Undertaking.

If the Trading Member is a corporate, then the Undertaking has to be signed by the Managing Director or any two Directors of the company named as an authorised signatories of the company. If the Trading Member is a corporate, the Undertaking has to be accompanied with a certified copy of the resolution of the Board of Directors of the company, authorising the person(s) executing the Undertaking to do so. The Common Seal of the company has to be affixed by the company on this Undertaking in the presence of such persons as authorised by the Articles of Association of the company. The Board Resolution should clearly state that the affixation of common seal shall be made in the presence of such persons as authorised by the Articles of Association of the company and should also clearly state the names of such persons. The above persons should sign the Undertaking as a token of their presence when the common seal is affixed.

**NATIONAL STOCK EXCHANGE OF INDIA LIMITED
CAPITAL MARKET OPERATIONS**

Circular No: NSE/CMO/0086
Download No: NSE/CMT/4718
Date: January 09, 2004
Dear Members,

CTCL FACILITY / INTERNET BASED TRADING SERVICES

This is in partial modification to Circular no. NSE/CMO/0013/2000 and Circular no. NSE/CMO/0014/2000 dated May 12, 2000 regarding CTCL facility / Internet Based Trading Services.

Trading members are required to ensure the below:

1. Network diagrams
 - 1.1. Trading members are required to provide the complete Network diagram which will depict in detail various systems and servers linked to the CTCL server (eg. payment gateways, technical feeds, risk management, etc). The same shall be vetted by the respective vendor providing the CTCL facility to the trading member.
 - 1.2. The diagram duly vetted by the vendor shall be provided by trading members for each and every user id which is activated for CTCL.
 - 1.3. Such a diagram shall be submitted by the trading members to the Exchange on a half yearly basis. First, such a diagram shall be submitted by the trading members on or before January 31, 2004.
 - 1.4. Non-submission of such a diagram shall render a trading member liable for withdrawal of trading facility through CTCL.

Trading Members may please note that non- compliance with any of the above shall render them liable for action besides as enumerated in 1.4 above, as may be deemed fit by the Exchange.

This circular will be effective with immediate effect.

For National Stock Exchange of India.
Suprabhat Lala
Manager – Capital Markets

NATIONAL STOCK EXCHANGE OF INDIA LIMITED
CAPITAL MARKET OPERATIONS
CIRCULAR

Circular No: NSE/CMO/0162/2005
Download No: NSE/CMTR/5758
Date: January 13, 2005

Dear Members,

SUB: UPLOADING OF CTCL DETAILS

This has reference to Circular No. NSE/CMO/0104/2004 dated April 07, 2004, Circular No: NSE/CMO/0110/2004 dated May 7, 2004 and Circular No: NSE/CMO/0112/2004 dated May 14, 2004 regarding the additional 15 digit field to be incorporated in the orders entered by the members through CTCL terminals and the file format specified by the Exchange in which the data is to be uploaded by the members.

With an intention to collect certain additional details alongwith the said information, the Exchange has redesigned the file structure and the methodology for reporting the details of the CTCL terminals. Members are required to follow the below mentioned procedure for uploading the files on the Extranet prior to activation / de-activation of CTCL ids:

1. The files shall be uploaded by the members on the extranet in comma delimited (.csv) format in the folder titled '<TM folder >/termctcl/Upld' (for capital market segment) and folder titled '/Faoftp/F<TM ID>/TermCtcl/Upld' (for F&O segment). The detailed structure of the new file is mentioned in Annexure 1.
2. The return files shall be placed in the Extranet directory '<TM folder >/termctcl/dnld' (for capital market segment) and folder titled '/Faoftp/F<TM ID>/TermCtcl/dnld' (for F&O segment).
 - a. The various types of return file that would be generated for members as well as the list of error messages is provided in Annexure 2.
 - b. If the member uploads the file in a different naming convention other than as specified, the system will not pick up the file and would be treated as non-reporting of CTCL details by the member.

Systems Audit of Stock Brokers CTCL

3. Members are requested to check their respective download folders and ensure that all the records in the file are appended with success message as detailed in Annexure 2.
4. Members are advised to refer to the detailed FAQ attached (Annexure 3).

Members who are using the CTCL facility shall submit all the relevant information in respect of their existing CTCL terminals to the Exchange **latest by January 31, 2005** in the prescribed file format given in Annexure 1.

Members may also note that w.e.f. January 19, 2005 they are not required to upload the CTCL details in the format as specified in Circular No: NSE/CMO/0110/2004 dated May 7, 2004, but have to upload the files as per the format prescribed in Annexure 1 of this circular.

All members availing of the CTCL facility are requested to take note of the above and ensure compliance so as to avoid any disciplinary action.

In case of any clarification, members may contact the following officers :Ms. Saumya Dixit (Extn:5044) / Mr. Abhishek Mahesh (Extn:5041) / Ms. Madhvi Gogate (Extn:5043) or at direct no. 022-26598150

For and on behalf of

National Stock Exchange of India Ltd.

Suprabhat Lala
Manager - Capital Markets
Encl : 3 Annexures

ANNEXURE 1

CTCL FILE FORMAT

A) The files shall be provided by the members in the format as detailed below:

Naming Convention of the input file:

XXXXX_CTC_DDMMYYYY.TNN

Where,

XXXXX - Member code

DDMMYYYY - Date DDMMYYYY format

NN - Batch Number

T - File indicator

B) **File contents:**

Control record:

Sr. No.	Field	Length	Mandatory/ Option	Description
1.	Record type	CHAR(2)	Mandatory	Value = 10
2.	File type	CHAR(3)	Mandatory	Value = 'CTC'
3.	Batch Date	DATE	Mandatory	Business Date
4.	Member code	CHAR(5)	Mandatory	Member code
5.	Batch Number	NUMBER(7)	Mandatory	Batch Number
6.	Total number of records	NUMBER(6)	Mandatory	Total number of records

Note : Batch date and batch number of the input file name should be same as date and batch number in the control record.

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Detail Record:

Sr. No.	Field	Length	Description
1	Record type	CHAR(2)	Value = 20
2	Terminal Id	CHAR(3)	Terminal id
3	Branch Id	CHAR(3)	Branch Id
4	Pin code of location	CHAR(6)	Pin code of the location
5	Neat User Id	NUMBER (5)	User Id
6	Segment	CHAR(1)	Segment in which trading is done (Value should be 'C' for Capital market 'F' for F&O)
7	Product Id * (Refer note below)	CHAR(25)	Product running currently on the terminal
8	Certification Number	CHAR(30)	NCFM Certification number
9	Certification Expiry Date	DATE	Date on which the certification Expires
10	Connection Mode	CHAR(25)	Mode in which Connection is done to perform trading
11	Activation date	DATE	Date of activation
12	Deactivation date	DATE	Date of deactivation
13	Approved User Name	CHAR(80)	Approved user name

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Sr. No.	Field	Length	Description
14	Relation with TM	CHAR (1)	Relationship with TM (Value should be 'D' for Dealer 'A' for Authorized Person 'S' for Sub broker)
15	Mapin	CHAR (25)	Mapin number
16	City	CHAR(50)	City Name
17	State	CHAR(50)	State Name
18	Address	CHAR(250)	Address where the terminal is located

* A file containing the product id code to be entered by the members for their respective CTCL software is placed on the extranet in the directory "/common/CTCL" with the file name "CTCL_prod_id".

ANNEXURE 2

FILE PROCESSING AND RETURN FILES TO MEMBERS

A) Control record errors:

In case of the following errors, the control record will be appended with 'R' and an error message. The error message may be one of the following:

1. Invalid control record type (first field should be 10)
2. Invalid File type (should be 'CTC')
3. Member code in control records and file name are not same
4. Total Records in Control Record is not a number
5. Invalid date in Control Record
6. Mismatch of date in control record and date given in file name
7. Mismatch of batch no in control record and in file name
8. No detail records to Process
9. Mismatch in Number of Detail records read from the file and Number of Detail records mentioned in control record

If the said errors do not occur, the control record will be appended with 'S' which indicates that the control record is proper.

B) Detail Record errors:

If an error occurs for a detail record, the record will be appended with 'R' and an error message. The message may be any one of the following:

1. The record type in the detail record is not valid (first field should be 20)
2. The User Id <id> and Segment <segment> is not valid
3. The product is not a valid product

Important NSE Circulars

4. The length of the branch id is invalid
5. The length of the terminal id is invalid
6. The location pin must be 111111 for IBT products (i.e. Internet Based Trading)
7. The terminal id must be 111 for IBT products (i.e. Internet Based Trading)
8. The branch id must be 111 for IBT products (i.e. Internet Based Trading)
9. The branch Id is invalid
10. The terminal Id is invalid
11. The branch does not have a vendor
12. One branch cannot have multiple vendors
13. The Pin Code is invalid
14. Multiple User Ids for the same terminal (is not allowed)
15. Invalid Certification Expiry date Format
16. Invalid Activation date Format
17. Invalid Deactivation date Format
18. Activation date cannot be Null
19. Activation date is greater than Deactivation date
20. Approved user name cannot be Empty
21. The member relationship is absent

In all other cases, the detail record will be appended with a 'S' which indicates that the detail record/s is/are proper.

Processing of files and their extensions:

After processing of the files,

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- If all the detail records are successfully loaded then the extension of the return file will be "S01".
- If atleast one detail record is not valid then the extension of the return file will be "P01".
- If the control record is invalid or all the detail records are invalid then the file extension will be "R01".

ANNEXURE 3

FAQs for allotment & upload of 12 digit CTCL Id

(Members are advised to read these guidelines very carefully so as to avoid any errors while uploading the CTCL files)

1) How does a broker allot a 12 digit CTCL id?

We would like to once again reiterate (as already informed vide our circular no. NSE/CMO/0104/2004 dated April 07, 2004) that the 12 digit code needs to be populated as below:

1 - 6 digits – Pin Code of the location of the CTCL terminal

7 - 9 digits – branch id of the trading member where the particular CTCL id is active

10 – 12 digits – unique id for every terminal

The above code necessitates uniformity in the CTCL id. Trading members are, therefore, required to generate CTCL ids sequentially. CTCL Id's shall be generated in the following manner for a trading member having CTCL terminals in different locations (location 1, 2, 3 & 4) and having more no. of CTCL terminals (Abc, Asdf, XYZ, MNO, LMN & BCD):

The following example depicts four locations and seven CTCL terminals in CM segment:

Current Data		New Information			
Current Location	Current Id	Pin Code (digit 1-6)	New branch (digit 7-9)	New CTCL id (digit 10-12)	Entire Code
1	Abc	400069	001	001	400069001001
1	Asdf	400069	001	002	400069001002
1	XYZ	400069	001	003	400069001003
2	MNO	400051	002	001	400051002001
2	LMN	400051	002	002	400051002002
3	Abc	400053	003	001	400053003001
4	BCD	400053	004	001	400053004001

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The above allocation means that for each Pin Code, there may be one or more branches as shown above and then for each branch, CTCL id shall be running in sequential number from 1 to 999 for each segment separately.

2) Suppose I have same set of terminals operating in F&O segment also in the identical locations as given in Reply 1 above. In this case how do I allot & upload the 12 digit CTCL ids?

The following example depicts the 12 digit CTCL id for F&O segment for identical locations and terminals as given in Reply 1 above:

Current Data		New Information			
Current Location	Current Id	Pin Code (digit 1-6)	New branch (digit 7-9)	New CTCL id (digit 10-12)	Entire Code
1	Abc	400069	001	001	400069001001
1	Asdf	400069	001	002	400069001002
1	XYZ	400069	001	003	400069001003
2	MNO	400051	002	001	400051002001
2	LMN	400051	002	002	400051002002
3	Abc	400053	003	001	400053003001
4	BCD	400053	004	001	400053004001

Thus, it can be observed that same logic as explained in Reply 1 above should be followed while allocating ids in F&O segment also.

However, the members will have to upload separate records containing the details of 12 digit CTCL id for CM and F&O segments.

3) I have one dealer operating in both CM and F&O segment under one branch. In this case can I allot a single 12 digit CTCL id to this dealer?

Member may allot 12 digit CTCL id to a dealer who uses both CM and F&O segment based on the logic as explained above. But while uploading the details,

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he will have to upload two detail records, namely, one for CM and another for F&O segment separately.

4) What care should I take while allotting the 12 digit CTCL id?

Members should take care that the branch ids and within a branch the CTCL ids should be in a sequential fashion and there should be no missing numbers. Members should also note that within a particular branch, the pin code (i.e. first 6 digits of the 12 digit code) should be identical. Trading members are required to exercise diligence in generating this id to ensure that there is no duplication of this id within the trading member per segment.

5) How should I upload the details of an additional CTCL terminal?

For every additional CTCL terminal activation, trading members are advised to upload data upfront for the additional id (i.e. on an incremental basis) and not the details of all the CTCL ids which they would have already uploaded and received success file.

6) How should I upload the details for deactivation of CTCL terminal?

Members may note that in case of withdrawal of trading facility from a particular CTCL terminal, they should immediately upload the details in the file format prescribed as per Annexure 1 in this circular with the date of de-activation.

7) How should I upload the details for cases of user id shifting?

In case of shifting of a CTCL id from one location to another, there would be a change in the 12 digit code. In such shifting cases, the trading members are advised to first de-activate the record relating to such CTCL id (12 digit CTCL code) which will be shifted and then upload the new/fresh 12 digit CTCL code alongwith the other relevant details.

8) How should I upload the details for cases of user name change?

In case of change in user name of the existing CTCL id, trading members are advised to first deactivate the record corresponding to such CTCL user (12 digit CTCL code) and then upload the fresh user details alongwith the original 12 digit CTCL code.

9) Which address should be given for reporting the location of CTCL terminals?

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The said 12 digit CTCL code should be reported for the location where the CTCL terminals are located and not of the location where the CTCL server is placed.

10) In case I am availing Internet based trading services (IBT), then how do I allot the 12 digit CTCL code?

Members may note that those providing Internet based trading facility approved by the Exchange vide Circular No. 14 dated May 12, 2000 are required to populate the aforesaid 12 digit code field with only '111111111111' and not with any other information.

11) I have uploaded the file in the correct folder but still the file is being seen in the upload folder?

In this case, the member should check whether he has followed the file naming convention given in Annexure 1. In case the file name is different other than as specified in Annexure 1, the system will not pick up the file and would be treated as non-reporting of CTCL details by the member.

12) Do I have to enter all the details as given in the file format?

Yes, the member has to provide all the details as per the file format given in Annexure 1, except for the date of deactivation of id which has to be given only in case an id is deactivated.

General

- In case CTCL id is not used by any Authorised Person / Approved User and such CTCL id is to be used by any other Authorised Person/ Authorised User, trading members are advised to replace the corresponding user details for the existing CTCL id and are advised not to add a record by creating a new CTCL id. Kindly ensure that only the active CTCL ids remain recorded with the Exchange.
- Trading members, along with their respective vendors, are advised to ensure that every order emanating from a CTCL terminal shall carry the respective details as listed above and uploaded by them.

**NATIONAL STOCK EXCHANGE OF INDIA LIMITED
CAPITAL MARKET OPERATIONS**

Circular No: NSE/CMO/0171/2005

Download No: NSE/CMTR/5802

Date: February 02, 2005

Dear Members,

UPLOADING OF CTCL DETAILS

This is in continuation with our circular no NSE/CMO/0162/2005 dated January 13, 2005 regarding uploading of CTCL terminal details in the file format specified by the Exchange.

Change in file name format:

Members may please note that the revised file nomenclature would be C_CTC_DDMMYYYY.TNN for CM Segment and F_CTC_DDMMYYYY.TNN for F&O segment, where

DDMMYYYY	- Date DDMMYYYY format
T	- File indicator
NN	- Batch Number

Further, in case a member uploads a file with a wrong file naming format or the file uploaded has zero bytes, then the system shall not pick up such files for processing and consequently there shall be no return file. However, such files (which would be lying in the 'upld' folder of the member) shall be renamed to '<filename>.failed'.

The above changes are applicable **from February 04, 2005**.

Important Points to be noted while preparing the CTCL detail file:

1. Date format in file nomenclature, control record and detail record shall be in DDMMYYYY format only.

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2. Records of terminal Ids should be arranged branch Id wise in sequential manner as shown in Table-1 and not in assorted manner as shown in Table-2

Table-1		
Correct Format		
Branch wise	Id	Terminal ID
001		001*
001		002
001		003
002		001
003		001

Table-2		
Incorrect Format		
Branch (Assorted)	Id	Terminal ID
003		001
001		001
001		002
001		003
002		001

- * First detailed record should start with 001 branch and terminal id and subsequent record should follow the sequence.

Members are requested to note that the field length of the 'Terminal Id' and 'Branch Id' are 3 digits, which is mandatory. For example:

For Terminal id = 1, trading members have to enter 001

For branch id = 1, trading members have to enter 001

Members are requested to upload the details after considering the above changes with effect from February 04, 2005.

For any further clarifications, trading members are advised to contact the following officials: Mr Abhishek Mahesh / Ms. Saumya Dixit / Madhvi Gogate at 26598150.

For and on behalf of

National Stock Exchange of India Ltd.

Suprabhat Lala
Manager – Capital Market

**NATIONAL STOCK EXCHANGE OF INDIA LIMITED
CAPITAL MARKET OPERATIONS
CIRCULAR**

Circular No: NSE/CMO/0197/2005

Download No: NSE/CMTR/6128

Date: May 10, 2005

**SYSTEM AUDIT REQUIREMENT FOR CTCL / INTERNET BASED
TRADING FACILITY**

Please refer to our circular ref. no. NSE/CMTR/6068 dated April 22, 2005. As part of the ongoing compliance requirements, members using CTCL and Internet based trading facility, are advised to introduce a requirement of regular audit of their systems.

The systems audit shall cover, besides the requirements specified in respect to systems audit under CISA or any other such professional code of conduct, compliance of systems with the rules, regulations, Bylaws of the Exchange, circulars / instructions/undertaking pertaining to CTCL and Internet based trading systems issued by SEBI and the Stock Exchange from time to time. The audit shall be conducted for the purpose of and with an objective of identifying the system inadequacies/deficiencies, if any, based on compliance requirements and the implications of such inadequacies.

The audit shall broadly cover the following areas/aspects.

- a. Existing features and system parameters implemented in the trading system.
- b. Identify the adequacy of input, processing and output controls.
- c. Identify the adequacy of the application security so that it is commensurate to the size and nature of application.
- d. Event logging and system monitoring.
- e. User management.
- f. Password policy/standards.

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- g. Test of adherence to policies.
- h. Network management and controls.
- i. Change management and version controls.
- j. Backup systems and procedures.
- k. Business continuity and disaster recovery plan.
- l. Documentation for system processes.
- m. Security features such as access control network firewalls and virus protection measures.
- n. Any other area/aspect which may be material for inclusion in the audit certificate and/or
which may be specified by the Exchange from time to time.

The members are required to submit a system audit certificate duly obtained from a person holding certificate from CISA /CISSP/ISA on half yearly basis starting from the year ending on June 30, 2005. The said certificate will be required to be submitted on or before the last working day of the subsequent month, i.e. in the instant case on or before July 31, 2005.

In case of any clarification, members may contact the following officials: Ms. Saumya Dixit (Extn:5044) / Mr. Abhishek Mahesh (Extn:5041) / Ms. Madhvi Gogate (Extn:5043) or at direct no. 022-26598150

For and on behalf of

National Stock Exchange of India Ltd.

Suprabhat Lala

Manager – Capital Market Operations

NATIONAL STOCK EXCHANGE OF INDIA LIMITED

CAPITAL MARKET OPERATIONS

Circular No: NSE/CMO/213

Download No: NSE/CMTR/6343

Date: July 01, 2005

Dear Members / Vendors:

**SUB: NORMS FOR CLIENT PASSWORDS FOR INTERNET BASED
TRADING SERVICES**

The Exchange provides a facility to its members of Internet based trading, through which client orders are routed to the trading system of the Exchange.

As the use of this facility has increased manifold in recent years, it is necessary to review the mechanism governing the security, reliability and confidentiality of passwords being used by clients for accessing internet based trading, and make them as secured as possible without affecting ease in operations.

With the above background and after discussing the matter with various vendors providing Internet based trading solution, the following norms have been finalized. These norms are minimum standards which the software facilitating Internet based trading should provide

1. Mandatory changing of password when the user logs in for the first time.
2. Automatic disablement of the user on entering erroneous password on three consecutive occasions.
3. Automatic expiry of password on expiry of 14 calendar days.
4. Password should be alphanumeric (preferably with one special character), instead of just being alphabets or just numerical.
5. System should not allow the changed password to be the same as the last password.
6. Login id of the user and password should not be the same.

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7. Password should be of minimum six characters and not more than twelve characters.
8. Password should be encrypted at members end so that employees of the member cannot view the same at any point of time.
9. Reset of password shall be only to default password. The system shall request for identification and new password before login into the system.

Members may choose to have stricter / stringent standards as they may deem fit for Internet based trading facilities to their clients.

For **National Stock Exchange of India Ltd.**

Suprabhat Lala

Manager – Capital Market

**NATIONAL STOCK EXCHANGE OF INDIA LIMITED
CAPITAL MARKET OPERATIONS**

Circular No: NSE/CMO/0218/2005

Download No: NSE/CMTR/6386

Date: July 15, 2005

Dear Members

**GUIDELINES FOR DEVELOPING IN HOUSE SOFTWARE FOR CTCL /
INTERNET BASED TRADING FACILITY**

With an objective to support the product development activities of the members / vendors developing Computer to Computer Link (CTCL) software, the Exchange provides a facility of 'test environment'. The members / vendors seeking approval for inhouse development of software are advised to take note of the following process flow:

1. On completion of necessary formalities as prescribed in circulars of the Exchange, the Exchange will provide the necessary technical specification to develop the software.
2. In order to test the developed software, the Exchange shall provide a 'test environment', timings of which are :

Particulars	Test market timings	Support timings
On a trading days	Between 4.30 p.m and 11:00 p.m.	4.30 pm to 7.00 pm
On Saturdays *	Between 11:00 a.m. and 11.00 pm	11 a.m. to 2 p.m.

* Test environment not available on Sundays and on mock trading days.

3. For various types of queries pertaining to CTCL product development, members may kindly contact on following telephone nos.

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Nature of query	Telephone Number	Timings
Related to systems (pertaining to the nnf document, connectivity issues etc)	26598271(D) 2659 8100 (Extn 6073 to 6080)	4.30 pm to 7.00 pm
Operational and business queries (user signed on, resetting password, resetting of limits)	26598150 (D)	3:30 pm to 5:45 pm

Members may also e-mail their queries on ctcl_supp@nse.co.in in the following format :

TM Name	Segment	Error code / reason code	Particulars of the query	Name of the NSE Official contacted, if any

For the email queries, the Exchange will revert on the next working day.

3. List of error codes generated during the testing of CTCL / IBT products alongwith explanation of error is attached as Annexure – 1. The same can also be referred to in the NNF document.
4. On successful development of CTCL / IBT software, members are advised to note the following :
 - Submit a detailed write up of the features available in the CTCL / Internet based trading software. For CTCL / Internet based trading software, the product should have the basic order entry facilities as provided in the NEAT trading system and should satisfy the conditions as undertaken by the member / contained in the scheme notified by the Exchange.
 - The Exchange will allot a date available as per schedule on which the member will have to demonstrate the product to the

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Exchange officials on the test environment of the Exchange. It maybe noted that demos are conducted only on Tuesday, Wednesday and Thursday.

For **National Stock Exchange of India Ltd.**

Suprabhat Lala

Manager – Capital Markets

Annexure 1

LIST OF ERROR CODES

Error Code ID	Error Code Value	Description of Error Numbers
ERR_MARKET_NOT_OPEN	16000	The trading system is not available for trading.
ERR_INVALID_BRANCH ERR_BAD_TRANSACTION_CODE	16001 16003	Erroneous transaction code received.
ERR_USER_ALREADY_SIGNED_ON	16004	User already signed on.
ERR_INVALID_SIGNON	16006	Invalid signon, Please try again.
ERR_SIGNON_NOT_POSSIBLE	16007	Signing on to the trading system is restricted. Please try later on.
ERR_INVALID_SYMBOL	16012	Invalid symbol/series.
ERR_SECURITY_NOT_AVAILABLE	16035	Security is unavailable for trading at this time. Please try later.
ERR_INVALID_BROKER_OR_BRANCH	16041	Trading Member does not exist in the system.
ERR_USER_NOT_FOUND	16042	Dealer does not exist in the system.
ERR_PASSWORD_HAS_EXPIRED	16053	Your password has expired, must be changed.
ERR_INVALID_BRANCH	16054	Branch does not exist in the system.
ERR_PROGRAM_ERROR	16056	Program error.
ERR_INVALID_BUYER_USER_ID	16098	Invalid trader Id for buyer.

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Error Code ID	Error Code Value	Description of Error Numbers
ERR_INVALID_SELLER_USER_ID	16099	Invalid trader id for buyer.
ERR_SYSTEM_ERROR	16104	System could not complete your transaction - ADMIN notified.
ERR_CANT_COMPLETE_YOUR_REQUEST	16123	System not able to complete your request. Please try again.
ERR_USER_IS_DISABLED	16134	This Dealer is disabled. Please call the Exchange.
ERR_INVALID_USER_ID	16148	Invalid Dealer Id entered.
ERR_INVALID_TRADER_ID	16154	Invalid Trader id entered.
ERR_ATO_IN_OPEN	16169	Order priced ATO cannot be entered when a security is open.
ERR_TRADE_MOD_DIFF_VOL	16251	Trade modification with different quantities is received.
ERR_NOT_FOUND	16273	Does not exist.
ERR_MARKETS_CLOSED	16278	The markets have not been opened for trading.
ERR_SECURITY_NOT_ADMITTED	16279	The security has not yet been admitted for trading.
ERR_SECURITY_MATURED	16280	The security has matured.
ERR_SECURITY_EXPELLED	16281	The security has been expelled.
ERR_QUANTITY_EXCEEDS_ISSUED_CAPITAL	16282	The order quantity is greater than the issued capital.
ERR_PRICE_NOT_MULT_TICK_SIZE	16283	The order price is not a multiple of the tick size.
ERR_PRICE_EXCEEDS_DAY_PRICE	16284	The order price is out of the day's price

Systems Audit of Stock Brokers CTCL

Error Code ID	Error Code Value	Description of Error Numbers
MIN_MAX		range.
ERR_BROKER_NOT_ACTIVE	16285	The broker is not active.
OE_AUCTION_PENDING	16303	Request denied. Pending auctions.
ERR_QUANTITY_FREEZE_CANCELLED	16307	The order is cancelled due to quantity freeze.
ERR_PRICE_FREEZE_CANCELLED	16308	The order is cancelled due to price freeze.
ERR_SOLICITOR_PERIOD_OVER	16311	The Solicitor period for the Auction is over.
ERR_COMPETITOR_PERIOD_OVER	16312	The Competitor period for the Auction is over.
OE_AUC_PERIOD_GREATER	16313	The Auction period will cross Market Close time.
OE_AUC_NOT_CAN	16314	The Auction cannot be cancelled.
ERR_LIMIT_WORSE_TRIGGER	16315	The limit price is worse than the trigger price.
ERR_TRG_PRICE_NOT_MULT_TICK_SIZE	16316	The trigger price is not a multiple of tick size.
ERR_NO_AON_IN_LIMITS	16317	AON attribute not allowed.
ERR_NO_MF_IN_LIMITS	16318	MF attribute not allowed.
ERR_NO_AON_IN_SECURITY	16319	AON attribute not allowed at security level.
ERR_NO_MF_IN_SECURITY	16320	MF attribute not allowed at security level.
ERR_MF_EXCEEDS_DQ	16321	MF quantity is greater than Disclosed quantity.

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Error Code ID	Error Code Value	Description of Error Numbers
ERR_MF_NOT_MULT_BOARD_LOT	16322	MF quantity is not a multiple of regular lot.
ERR_MF_EXCEEDS_ORIGINAL_QUANTITY	16323	MF quantity is greater than Original quantity.
ERR_DQ_EXCEEDS_ORIGINAL_QUANTITY	16324	Disclosed quantity is greater than Original quantity.
ERR_DQ_NOT_MULT_BOARD_LOT	16325	Disclosed quantity is not a multiple of regular lot.
ERR_GTD_EXCEEDS_LIMIT	16326	GTD is greater than that specified at System.
OE_QUANTITY_GREATER_RL	16327	Quantity is greater than Regular lot size.
ERR_QUANTITY_NOT_MULT_BOARD_LOT	16328	Quantity is not a multiple of regular lot.
ERR_BROKER_NOT_PERMITTED_IN_MKT	16329	Trading Member not permitted in the market.
ERR_SECURITY_IS_SUSPENDED	16330	Security is suspended.
CXL_REMAIN_ACTIVE_ORDER	16332	Remaining passive order has to be cancelled.
ERR_BRANCH_LIMIT_EXCEEDED	16333	Branch Order Value Limit is exceeded.
OE_ORD_CAN_CHANGED	16343	The order to be cancelled has changed.
OE_ORD_CANNOT_CANCEL	16344	The order cannot be cancelled.
OE_INIT_ORD_CANCEL	16345	Initiator order cannot be cancelled.
OE_ORD_CANNOT_MODIFY	16346	Order cannot be modified.

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Error Code ID	Error Code Value	Description of Error Numbers
ERR_TRADING_NOT_ALLOWED	16348	Trading is not allowed in this market.
OE_NT_REJECTED	16357	Order entered for negotiated trade is cancelled.
CHG_ST_EXISTS	16363	New status requested should not be same as existing one.
OE_SECURITY_IN_PREOPEN	16369	The security status is preopen.
ERR_USER_TYPE_INQUIRY	16372	Order entry not allowed for user as it is of inquiry type.
ERR_SOLICITATION_NOT_ALLOWED	16379	The broker is not allowed to enter soliciting orders.
ERR_AUCTION_FINISHED	16383	Trading in this auction is finished.
ERR_NO_TRADING_IN_SECURITY	16387	Security is not allowed to trade in this market.
ERR_TURNOVER_LIMIT_NOT_SET	16392	Turnover limit not provided. Please contact Exchange.
ERR_DQ_EXCEEDS_LIMIT	16400	DQ has exceeded limit set in control.
ERR_WRONG_LOGIN_ADDRESS	16403	You are trying to sign on from a different location. Sign on is not allowed.
ERR_ADMIN_SUSP_CANCELLED	16404	Order is cancelled due to freeze admin suspension.
ERR_INVALID_PRO_CLIENT	16411	Pro-client can be either Pro or Client only.
ERR_INVALID_NEW_VOLUME	16412	New volume should be less than the traded volume.
ERR_INVALID_BUY_SELL	16413	Requested by can be BUY or SELL or

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Error Code ID	Error Code Value	Description of Error Numbers
		BOTH.
ERR_INVALID_INST	16414	Invalid combination of book type and instructions (order_type).
ERR_INVALID_ORDER_PARAM	16415	Invalid combination of MF / AON / Disclosed Volume.
ERR_INVALID_CP_ID	16416	Invalid counter broker Id.
ERR_NNF_REQ_EXCEEDED	16417	No. of NNF requests exceeded.
ERR_INVALID_ORDER	16418	Order entered has an invalid data.
ERR_CXLED_TRADE_CXL_REQ	16419	Cancelled trade cancel request.
ERR_INVALID_ALPHA_CHAR	16420	Alpha char must be the same as first two chars of symbol.
ERR_TRADER_CANT_INIT_AUCTION	16421	Only control can initiate auctions, not trader.
ERR_INVALID_BOOK_TYPE	16422	Book type should be between 1(RL) and 7(AU).
ERR_INVALID_TRIGGER_PRICE	16423	Invalid trigger price entered.
ERR_INVALID_MSG_LENGTH	16424	Message length is invalid.
ERR_INVALID_PARTICIPANT	16425	Participant does not exist.
ERR_PARTICIPANT_AND_VOLUME_CHANGED	16426	Participant and volume cannot be changed simultaneously.
ORD_NOT_ALLOWED_IN_PREOPEN	16197	Order Entry or Modification not allowed in preopen.
ST_NOT_ALLOWED_IN_PREOP	16441	ST Orders are not allowed in preopen.

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Error Code ID	Error Code Value	Description of Error Numbers
EN		
DQ_NOT_ALLOWED_IN_PREOPEN	16439	DQ Orders are not allowed in preopen.

**NATIONAL STOCK EXCHANGE OF INDIA LIMITED
CAPITAL MARKET OPERATIONS
CIRCULAR**

Circular no: NSE/CMO/0235/2005

Download No : NSE/CMTR/6552

Date : August 24, 2005

Dear Members,

**SUB: SCHEME GOVERNING USE OF FACILITY RELATING TO COMPUTER
TO COMPUTER (CTCL) TRADING / INTERNET BASED TRADING**

National Stock Exchange of India (NSE) offers a facility to its members by which members are allowed to use their own trading front-end software in order to trade on the NSE trading system (NEAT). Members wishing to avail of the CTCL facility are required to submit an undertaking in the specified format.

However, with an objective to facilitate orderly use of the CTCL facility and to consolidate various conditions and / or requirements governing the use of the CTCL facility, it has been decided to replace the existing undertaking with a new comprehensive scheme containing various conditions and /or requirements.

Trading members applying for the CTCL facility are required to give us an undertaking stating that they will abide by all the conditions and / or requirements mentioned in the comprehensive scheme governing the use of the facility relating to Computer to Computer (CTCL) trading / Internet based trading.

List of documents enclosed as per below mentioned table:

Particulars	Annexure No.
Undertaking to be given by the trading members applying for CTCL / IBT trading facility.	1

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Comprehensive scheme governing the use of the facility relating to Computer to Computer (CTCL) trading / Internet based trading.	2
Checklist of the documents to be submitted alongwith application for the CTCL facility.	3
Checklist of the documents to be submitted alongwith application for Internet Based trading facility.	4
Application form for the permission for provision of CTCL the based trading services.	5
Reference points while developing in-house CTCL software.	6

Trading members may also note that the list of various circulars issued by Capital Market – Operations pertaining to CTCL / IBT trading facility are as follows :

Circular Date	Download No.	Particulars
12-May-00	NSE/CMTR/1641	Computer to Computer link (CTCL) Facility
28-Jan-03	NSE/CMT/3896	Free Release of NNF document to members and revision of fee/charge on CTCL
22-Aug-03	NSE/CMT/4349	Affidavit –Cum – Undertaking for use of Computer to Computer (CTCL) Trading
30-Sep-03	NSE/CMT/4451	Computer to Computer link (CTCL) Trading
6-Nov-03	NSE/CMTR/4540	Proprietary account trading
9-Jan-04	NSE/CMTR/4718	CTCL facility / Internet based trading services

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13-Jan-05	NSE/CMTR/5758	Uploading of CTCL Details
2-Feb-05	NSE/CMTR/5802	Uploading of CTCL Details
10-May-05	NSE/CMTR/6128	System Audit requirement for CTCL / Internet based trading facility
1-Jul-05	NSE/CMTR/6343	Norms for the client passwords for Internet based trading services
15-Jul-05	NSE/CMTR/6386	Guidelines for developing in house software for CTCL / Internet based trading facility

Henceforth, use of the CTCL facility by all the trading members shall be subject to and governed by the provisions contained in this scheme and / or any amendments thereof that may take place hereafter.

For National Stock Exchange of India.

Suprabhat Lala

Manager – Capital Markets

Annexure 1

(Note: Document to be stamped for Rs.300/- or the value prevailing in your State, whichever is higher. Please execute document on Non-Judicial stamp paper/s or on paper franked from Stamp Office/authorised banks)

CTCL UNDERTAKING

I / We _____, an individual / a firm registered under the Indian Partnership Act, 1932 / a Company / body corporate incorporated under the Companies Act of 1956 / _____ Act, 19____, and residing at / having our registered office at _____ (hereinafter referred to as the '**Undersigned**' which expression shall unless repugnant to the context include his / its successors, assigns and legal representatives) give this Undertaking IN FAVOUR of **NATIONAL STOCK EXCHANGE OF INDIA LIMITED**, a company incorporated under the Companies Act, 1956 and having its registered office at Exchange Plaza, Bandra-Kurla Complex, Bandra (East), Mumbai 400 051 (hereinafter referred to as '**NSEIL**' which expression shall unless repugnant to the context include its successors, assigns and legal representatives).

1. **WHEREAS**, NSEIL provides inter alia a Computer To Computer Link (hereinafter referred to as the "CTCL facility" as well as the facility to use Internet) by which NSEIL provides a facility to its Trading Members to access the trading system of NSEIL.
2. **WHEREAS**, NSEIL makes available the CTCL / Internet based trading facility to its Trading Members on case to case basis, subject to such terms and conditions as NSEIL specifies from time to time in the Scheme Governing the use of the facility relating to CTCL / Internet based trading (hereinafter referred to as the "CTCL scheme") and one of the conditions is that each trading member willing to avail of the CTCL / Internet based trading facility shall execute an undertaking in favour of NSEIL in the format prescribed by NSEIL and agree to abide by any modifications / additions to the scheme of CTCL effected by NSEIL from time to time.
3. **WHEREAS**, I/We have been admitted to the Trading Membership of NSEIL, and am/are desirous of availing of the CTCL / Internet Based trading facility by fulfilling all the terms and conditions as may be prescribed by NSEIL from time to time at its discretion in this regard.

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NOW, THEREFORE, IN CONSIDERATION OF NSEIL having agreed to allow the Trading Member at his / its request, to avail of the CTCL facility, the Trading Member hereby **IRREVOCABLY AND UNCONDITIONALLY UNDERTAKES** and agrees to abide by and be bound by the following terms and conditions:

1. That I/We shall abide by, comply with and be bound by the Rules, Bye-laws, Regulations and the CTCL scheme of NSEIL as in existence or as may be modified / amended by the relevant authority from time to time and any circular, order, direction, notice, instructions issued and / or as maybe modified or amended from time to time by the relevant authority;
2. That NSEIL shall be entitled to amend its Rules, Bye Laws, Regulations and CTCL scheme unilaterally and I/We shall be deemed to have consented to them, and accordingly be bound by the Rules, Bye-laws, Regulations and CTCL scheme prevailing from time to time and NSEIL shall be entitled to all powers vested in them under the Rules, Bye-laws and Regulations, by which I/We unconditionally agree to be bound;
3. That I/We shall execute, sign, subscribe, to such documents, papers, agreements, covenants, bonds and / or undertakings whether legal or otherwise as maybe required by NSEIL from time to time.
4. That without prejudice to the rights, remedies whether legal or otherwise available to NSEIL upon my / our non-compliance with this Undertaking, I/We shall indemnify and keep indemnified NSEIL against any loss / damage suffered by it whether legal or otherwise arising due to non-compliance by me/us with the provisions of this Undertaking.
5. The above Undertaking will be binding on my / our successors and permitted assignees.

IN WITNESS WHEREOF this Undertaking is executed by me / us (*in terms of the resolution passed by the Board of Directors at the duly convened meeting held on _____) on the day, month, year and the place first mentioned above.

*(*I / We or me/us or my / our delete whatever is inapplicable).*

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SIGNED and DELIVERED by the within named)

_____, *for and on behalf of)

In the presence of Witnesses)

1. _____ (Name & Address))

2. _____ (Name & Address))

Annexure 2

**SCHEME GOVERNING USE OF FACILITY RELATING TO CTCL / INTERNET
BASED TRADING**

With an objective to facilitate orderly use of the CTCL facility and to make various conditions and / or requirements governing the use of CTCL facility in a transparent manner and to have its due and strict compliance, the scheme containing various conditions and / or requirements is formulated as under:

For the purpose of this scheme,

'CTCL facility' shall mean and include the use of the software, which has been developed and maintained by a vendor / member duly empanelled with the Exchange, for the purpose of using CTCL by a member to access the trading system of the Exchange.

1) PRE-REQUISITES FOR OBTAINING PERMISSION FOR CTCL FACILITY

- 1.1 In pursuance to the application made in the form as maybe prescribed by the Exchange for the CTCL and / or Internet based trading facility by any member, the member shall deemed to have agreed by the provisions mentioned in the scheme hereunder, and the amendments made thereto by the Exchange from time to time.
- 1.2 A member shall produce the proof, wherever applicable, relating to approval obtained under (1.4) to the Exchange to facilitate the Exchange to extend the CTCL facility. The member shall also ensure that the activity carried out through use of the CTCL facility is strictly in accordance with the approved network diagram and the requirements specified by the Exchange / DOT and / or MTNL and / or other appropriate government / statutory authorities.
- 1.3 A member who intends to develop and maintain the software to support the CTCL facility to be approved by the Exchange shall pay one time fee towards the receipt of the technical specifications (message formats / protocol etc.) and a recurring annual fee as may be prescribed by the Exchange from time to time. For the financial year 2005-2006, the one time fee and

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recurring annual fee are Rs. One lac fifty thousand and Rs. Fifty thousand respectively. For the purpose of calculation of recurring charges, the financial year shall be considered as the basis for the year. The charges (one time charge and recurring charge for the first year) shall be payable at the time of lodging an application for the CTCL facility with the Exchange. The recurring charges shall be apportioned on a pro-rata basis for the financial year from the day on which the application is received.

- 1.4 A member shall, at its own expense and except VSATs, provide all lines, cabling, hardware, equipment and other communication facility required for the transmission of the data between the receiving premises and the server installed at the member's office/s and also obtain the necessary approval in writing from relevant authorities.
- 1.5 A member shall pay license fee / charges / royalty as may be levied by DOT / MTNL / Exchange / any other government / statutory authorities from time to time.
- 1.6 A member shall ensure that the telecommunication network used by the member shall be as per the requirements specified by the Exchange / DOT / MTNL / any other government / statutory authorities from time to time.
- 1.7 A member shall submit an acceptance certificate in the form as may be specified by the Exchange from time to time as the condition precedent for the purpose of permitting use of the CTCL facility by the Exchange, after completing necessary test and fully satisfying the Exchange that the CTCL facility is fault-free.

2) CONTINUED PERMISSION REQUIREMENTS

- 2.1 A member shall make the CTCL facility available to any approved person only after obtaining a prior written permission of the Exchange and such permission shall be subject to such conditions and / or requirements as may be stipulated by the Exchange from time to time.

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- 2.2 A member shall ensure that no CTCL facility is extended to any user / person unless such user / person has passed a NCFM and / or equivalent certification program of the appropriate modules.
- 2.3 A member shall upload the details relating to the approved persons in the format prescribed by the Exchange from time to time before extending facility of use of CTCL to any approved person. The member shall also upload the details of any change in any of the details relating to the use of the CTCL facility and / or the approved person.
- 2.4 A member shall ensure that directly and / or indirectly 'no view only terminal' and / or trading terminal is provided to any other person / office / premises / address in contravention with any of the provisions contained in the Bye-laws, Rules, Regulations, and Circulars relating to the requirements concerning location of CTCL terminals and usage thereof.
- 2.5 A member shall take all necessary steps to ensure that branches and/or their sub-brokers have not provided any extension of the CTCL facility connected through VSAT/Leased Line with the Exchange by means of any connectivity viz. dial up / Leased Line / ISDN / Wireless media / other mode without prior uploading of the user details with location.
- 2.6 A member shall be responsible and shall take all such steps / actions and put in place the requisite mechanism to ensure and keep ensuring that no approved person, in any way, is able to make the CTCL facility further available to any other person nor shall the CTCL facility be extended outside the premises for which details are uploaded to the Exchange. In case any member fails to strictly adhere to these requirements, the Exchange may, at its discretion, take such action as it may deem fit, which may include immediate withdrawal of the CTCL facility either in part or in full, without any notice / reference to the member, and such disciplinary action against the member.
- 2.7 A member shall use the physical connection / link provided for the purpose of having simultaneous access to both the CTCL facility and the NEAT trading system.

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- 2.8 A member and their branches and/or their sub-brokers shall execute any of the orders received from any of their constituents only in the respective name / client code of the constituent and no order received from any of the constituents shall be executed under PRO code and / or under other client code.
- 2.9 A member shall not, under any circumstances, either through the software or otherwise, match any of the orders entered by his / its approved persons from the terminals extended by such member and that the member shall ensure to route all the orders, entered by his / its approved persons, to the trading system of the Exchange where such orders can be matched by the centralized computer trading system of the Exchange.
- 2.10 A member shall ensure to put in place a system based control on the trading limits and / or exposure taken in respect of all his / its clients and adequate system control for setting pre-defined limits on the exposure and turnover for each of the clients. The system should also be capable of assessing the risk of a client as soon as any order is received by the system for processing it for execution. Acceptance / rejection of any order shall be intimated to the respective clients within a reasonable period. Reports relating to margin requirement, payment and delivery obligations etc shall be informed or made available to the clients through the system.
- 2.11 A member shall not advertise or use any software / program which may directly or indirectly facilitate matching of orders between or among two or more clients by way of grouping or otherwise. The CTCL facility being used by a member shall have inbuilt feature of pushing in all the orders, entered by any of the approved persons only through the CTCL server of the member for which in turn will push such orders to the trading system of the Exchange, for the purpose of execution.
- 2.12 A member shall not develop and/or use any software / program which shall either directly or indirectly facilitate automated trading without a prior written permission of the Exchange. The term "Automated Trading" shall mean and include any software or facility by the use of which, upon the fulfillment of certain specified parameters, without the necessity of manual entry of

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orders, buy/sell orders are automatically generated and pushed into the trading system of the Exchange for the purpose of matching.

- 2.13 A member shall be responsible to settle all the trades executed by any approved person through the use of the CTCL facility, whether such trades were executed with or without the knowledge of the member and that the member shall be bound to honour / comply / fulfill all the obligations / liabilities / commitments arising out of and / or in connection with the trades executed by the approved person/s as if such trades were done by the member and / or permitted by the member.
- 2.14 A member shall maintain all systems logs and make the same available for inspection at the discretion of, and demand by, the Exchange at any time.
- 2.15 A member shall ensure to undertake periodic audit of their CTCL / Internet based trading systems at such time intervals and from such qualified persons as may be directed by the Exchange from time to time and submit a certificate duly issued by such qualified person to the Exchange within the time as may be stipulated by the Exchange.
- 2.16 A member shall ensure to carry out necessary changes in the CTCL facility used for accessing the trading system of the Exchange, within such time as may be intimated by the Exchange, from time to time. No modification of any part of the software has been / will be effected without a prior written permission of the Exchange.
- 2.17 A member shall not develop / use any software for accessing the trading system of the Exchange, whether through the CTCL mode or otherwise, which software, in the opinion of the Exchange, may resemble and / or result and / or may give appearance of NEAT software in any manner.
- 2.18 A member shall not assign and / or otherwise transfer any one or more rights and / or obligations relating to the use of the CTCL facility, without a prior written permission of the Exchange.

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- 2.19 A member shall not use, without a prior written permission of the Exchange, the name of the Exchange to directly and / or indirectly promote his / its business.
- 2.20 A member shall ensure that the CTCL facility is flexible for effecting any changes at a short notice and has inbuilt functionalities / features in respect of online surveillance, trade by trade position monitoring and other risk management aspects.
- 2.21 A member shall treat, as confidential, all information obtained from the Exchange pursuant to this scheme and shall not divulge such information to any person (except employees of the member who need no such information) without a prior written permission from the Exchange and that the member shall ensure that all his / its employees are aware by and strictly comply with this requirement without exception. It is clearly understood that the forgoing obligation as to confidentiality shall survive any termination of the availability of use of the CTCL facility envisaged under this scheme.
- 2.22 A member shall not, either by himself / itself and / or through any person acting on his / its behalf issue / release / publish any advertisement, brochure / pamphlet / booklet, notice or any other promotional material on any aspect relating to the use of the CTCL facility, in any form, whether written or otherwise, except in accordance with the code of advertisement as may be prescribed by the Exchange from time to time and after a prior written permission of the Exchange.
- 2.23 Any declaration and / or notice required to be given by any member to the Exchange shall be sent by registered letter or facsimile transmission or at e-mail address specifically provided by the Exchange for this purpose.
- 2.24 Besides the conditions and / or requirements as may be stipulated under clause (2.1) by the Exchange, all the provisions contained in the Bye-laws, Rules, Regulations and Circulars relating to the use and operation of the NEAT trading system shall mutatis mutandis be applicable to the use and operation of the CTCL / facility.

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- 2.25 A member shall ensure that the guidelines issued by SEBI in relation to Internet based securities trading and services are strictly adhered to, more particularly relating to
- 2.25.1 Any system used by a member shall have necessary provision for the security, reliability and confidentiality of the data through the use of suitable encryption technology;
 - 2.25.2 Maintaining adequate backup systems and data storage capacity by a member besides putting in place alternative means of communication in case of the failure in internet connectivity / link;
 - 2.25.3 Sending order / trade confirmation to the investor through email at client's discretion at the time period specified by the clients in addition to the other mode of display of such confirmation on real time basis on the website of the member. The investor shall be allowed to specify the time interval on the website within which the investor would like to receive the confirmation through email. The Facility of reconfirmation of orders which are larger than that specified by the member's risk management system shall be provided on the Internet based system.
- 2.26 A member shall ensure that the following security measures are inbuilt in the software / system:
- 2.26.1 User Id.
 - 2.26.2 First level password (Private code).
 - 2.26.3 Automatic expiry of passwords at the end of a reasonable duration. Reinitialise access on entering a fresh password.
 - 2.26.4 All transaction logs with proper audit facilities to be maintained in the system.
 - 2.26.5 Secured Socket Level Security for server access through Internet.

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- 2.26.6 Suitable Firewalls between trading set-up directly connected to an Exchange trading system and the Internet trading set up.
- 2.26.7 Integrating any advanced level security as specified by NSE / SEBI from time to time.
- 2.26.8 Adherence to the following systems operations procedure :
 - 2.26.8.1 Follow identical logic / priorities used by the Exchange to treat client orders.
 - 2.26.8.2 Maintain all activities / alerts log with audit trail facility.
 - 2.26.8.3 Unique numbering generation by the Web-server for all clients orders / trades.
- 2.27 The member shall follow and comply with such orders or instructions including any such order or instruction, as may be issued by the Exchange or any committee of the Exchange duly constituted for the purpose, in the event of the member committing any violation of any Rules, Bye Laws, regulation, CTCL scheme or practice or code of conduct prescribed by the Exchange in respect of the conduct of the business in the Exchange and those that maybe in force from time to time.

3) RIGHTS OF THE EXCHANGE

- 3.1 The Exchange may, at its discretion, make the CTCL facility available from any location, as may be notified by the Exchange from time to time (hereinafter referred to as the "receiving premises"), to a member, and the member shall be responsible and required to establish connectivity with such receiving premises at his cost.
- 3.2 The Exchange may, at its discretion, make the CTCL facility available to the member upto such time as the Exchange may deem fit and that the CTCL facility may, at any time, be

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withdrawn, at its discretion by the Exchange, without giving any notice / reference to the member and / or reasons whatsoever.

- 3.3 The Exchange shall, at its discretion, have an absolute right to inspect the software used by any member either in his / its own office and / or extended such a facility at any other location, at any time and without a prior notice.
- 3.4 A member shall render and / or shall cause to render all possible assistance and cooperation to the official of the Exchange by providing access to any kind of information in any form as such official may require at any location whether details of such location are uploaded or not, and shall produce such documents, records, accounts, books, data etc, howsoever stored, including the data stored in magnetic tapes, floppy diskettes etc., and provide any other information as may be required by the Exchange.
- 3.5 Without prejudice to any other right under any law for the time being in force or which may become applicable at any time, the Exchange shall have the exclusive right to take, at its discretion, such actions, steps, measures, proceedings, decisions within such period of time and upon such conditions and / or requirements as the Exchange may deem fit upon any member non-complying and / or delaying in compliance and / or failing to comply with any of the conditions and / or requirements contained in this scheme and / or amendments thereto or upon suspension or termination of any member on any account whatsoever. It is understood that such actions, steps, proceedings, decisions may interalia include immediate withdrawal of use of the CTCL facility accessing the trading system of the Exchange, without notice / reference to the member and / or such disciplinary action as the Exchange may deem fit and that the member shall abide by and be bound by such actions, steps, measures, proceedings, decisions as may be initiated by the Exchange from time to time.
- 3.6 No forbearance, delay or indulgence by the Exchange in enforcing any of the conditions and / or requirements contained in this scheme and / or amendments thereto and / or under the Bye-laws, Rules, Regulations and Circulars, shall prejudice and / or restrict the rights of the Exchange nor shall any waiver

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of the right of the Exchange operate as a waiver of any subsequent breach. No right, power or remedy herein conferred upon or reserved for the Exchange is exclusive of any other right, power or remedy available to the Exchange and that each such right, power or remedy shall be cumulative.

- 3.7 The Exchange has and shall have an absolute right to add, modify, amend and / or delete any of the conditions and / or requirements contained in this scheme and such additions, modifications, amendments and / or deletions shall be applicable and come into force as may be notified by the Exchange from time to time and that every member and / or every approved person associated with the member shall abide and / or be bound by such additions, modifications, amendments and / or deletions as if such additions, modifications, amendments and / or deletions are a part of this scheme.

4. GENERAL

4.1 Non-Exclusivity

The CTCL facility made available to any member by the Exchange shall be on a non-exclusive basis and shall be available only at the discretion of the Exchange.

4.2 Notice of withdrawal by member

4.2.1 A member may be entitled, by giving one month's written notice, to request the Exchange to withdraw the CTCL facility. Such withdrawal shall be subject to such conditions and / or requirements as may be stipulated by the Exchange, including payment of such amount to and / or by the Exchange, as may be decided by the Exchange at its discretion.

4.2.2 A member is aware that the Exchange is the absolute owner of the proprietary rights in respect of the APIs entrusted to the member for the purpose of developing the software and that he shall not duplicate, sell, assign, license or part in any other

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mode and / or method for consideration or otherwise and / or transfer the API i.e to any third party any time.

4.2.3 A member is aware that in case the Exchange rejects the application for developing software the for availing the CTCL facility or the member withdraws the application for developing the software, the member shall return immediately, without any demur, the APIs to the Exchange.

4.2.4 The member shall forthwith inform the Exchange in writing as and when any notice is received by the member in connection with any institution of winding up proceedings against the member and that the member shall inform the Exchange in writing before the member initiates any winding up proceedings to be wound up. The member further undertakes, that it shall inform the Exchange in writing on the onset of any circumstance which is likely to or may render the member to be wound up or which is likely to or may render the member liable to be subject to winding up proceedings.

4.3 Indemnifying the Exchange

A member shall be deemed to have indemnified and keep indemnified the Exchange harmless against every and all claims, demand, damages, liabilities, losses and / or expenses suffered by such member directly by reason of the use and / or non-use of the CTCL facility by any member / approved person and / or by reason of any member / approved person not complying with and / or delaying in compliance with and / or failure in compliance with and / or contravening with any of the conditions and / or requirements contained in this scheme and / or amendments thereto, including in relation to the proprietary rights of API vested in the Exchange .

4.4 No warranty by the Exchange

A member agrees and is fully aware that the Exchange does not, in any manner, warrant that the use of the CTCL facility,

Systems Audit of Stock Brokers CTCL

accessing the trading system of the Exchange, will be error-free and / or uninterrupted.

4.5 No liability to the Exchange

The Exchange shall not, in any way, be responsible for development, maintenance, updates, upgrades, error fixes or any other support to the software being used for the CTCL facility by any member and shall not be liable for any loss suffered by any member due to the use of the software for extending the CTCL facility.

Also, the Exchange shall, in no way, be liable for any direct and / or indirect damage, costs, claims and / or expenses whatsoever, in connection with

4.5.1 Mechanical or electrical or telephone or network breakdown or power failure or malfunction of any of the servers or auxiliary equipment used by a member and / or any other cause beyond the reasonable control of the Exchange.

4.5.2 Special direct / indirect economic or consequential loss or damage including, but not limited to the loss of profit, business revenue, opportunity costs, goodwill or anticipated saving.

4.5.3 Any event of a force majeure

For the purpose of this clause, "Force Majeure" means and includes wars, insurrections, revolution, fires, floods, epidemic quarantine restrictions, declared general strikes in relevant industries, Act of God, Act of the Government of India and / or any concerned State Government and any such other acts or events beyond the control of the Exchange. Further, this will not be prejudicial to the rights already accrued to the Exchange due to the failure by any member to perform either in full or in part any of the obligations prior to the occurrence of the event of Force Majeure.

4.6 No guarantee

Important NSE Circulars

It is clearly understood that neither the Exchange nor the directors, managers, officers, employees or agents of the Exchange guarantee the functioning of the CTCL facility nor uninterrupted connectivity to the trading system of the Exchange. The Exchange and the directors, managers, officers, employees and agents of the Exchange shall not be, in any way, liable to any member and / or his / its approved person or to any other person for any problem in performance or interruption of the CTCL facility or for any damages, consequential or otherwise, arising therefrom or occasioned thereby. No proceedings shall be issued by any member / approved person / third party against the Exchange or against any of the directors, managers, officers or employees of the Exchange for any act of commission or omission done in discharge of official functions.

4.7 Applicability of this scheme

This scheme shall be applicable not only to the information services and terminal equipment already offered by any member to any approved person but shall also be applicable to any information services and terminal equipment that may be developed by any member in future, even if any member has either altered and / or intends to alter the mode of supplying information to any approved person, except where the member has obtained a permission, in writing, for such an alteration with complete details from the Exchange.

Annexure -3

**CHECKLIST OF THE DOCUMENTS TO BE SUBMITTED ALONGWITH
APPLICATION FOR CTCL FACILITY**

Sr. no.	Particulars
1	Prescribed Undertaking executed on Rs 300 stamp paper
2	Stamp paper issued in the name of member
3	Undertaking is executed within 6 months of the date of stamp paper purchase
4	All pages of Undertaking are duly notarized
5	Board Resolution is attached
6	Persons as authorized by board resolution have signed the undertaking
7	Empanelled vendor's confirmation letter is attached
8	Duly notarized network diagram is attached

Annexure - 4

**CHECKLIST OF THE DOCUMENTS TO BE SUBMITTED ALONGWITH
APPLICATION FOR INTERNET BASED TRADING FACILITY**

Sr. no.	Particulars
1	Application is executed on letter head
2	Net worth certificate is attached (for the last financial year ended and / or half year ended, whichever is later)
3	Net worth mention in the application is per certificate attached
4	Certificate on backup system and data storage
5	Network Diagram enclosed
6	Comprehensive write up on Internet trading system
7	Application signed by authorized signatories
8	Annexure 1 of Internet based trading executed on letterhead of the empanelled vendor
9	Annexure 1 has been signed by vendor and countersigned by member
10	SSL certificate is attached
11	Name of url on website is tallying with SSL certificate
12	NCFM certificates enclosed for all employees named in the application

Annexure - 5

APPLICATION FORM FOR PERMISSION FOR PROVISION OF CTCL BASED TRADING SERVICES

(To be given on letterhead of the Member)

Date:

To
The CTCL Department
National Stock Exchange of India Ltd
Bandra Kurla Complex
Mumbai – 400 051

Sub: Conversion of user id from NEAT to CTCL

Please convert the following user id from NEAT to CTCL

Segment	TM Code	TM Name	User id	VSAT / LL	“Pro” trading facility enabled *
					Y/N

I confirm that that the above id is a Dealer id (not a Branch Manager or Corporate Manager id) and that there is no other CTCL id on the above mentioned Vsat / leased line.

We are also attaching a confirmation letter from NSEIL empanelled vendor M/sto activate the id for CTCL / Internet based trading.

Regards,
Sd/

Proprietor / Partners / Director

* In case of user id enabled for “proprietary account trading” please attach an undertaking as per our Circular No NSE/CMO/0070/2003 dated November 06, 2003.

Annexure – 6

REFERENCE POINTS WHILE DEVELOPING CTCL SOFTWARE

A	Order Management
1	Order entry- attributes
2	Book Types
3	Order confirmation
4	Order status
5	Order modification
6	Order cancellation
7	Outstanding orders
8	Order history / reports
B	Trade management
1	Trade confirmation
2	Trade Reports
3	Trade modification
4	Trade cancellation
C	Risk Management
1	Order quantity limit
2	Order value limit
3	Security wise order qty. & value limit

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D	Auctions & Exercise
1	Auction order entry
2	Auction order cancellation
3	Auction order enquiry
4	Exercise of Options
E	Client information
1	Client code structure
2	Display of client position
F	Security & Compliance related
1	Password protection
2	Lock-in mechanism for inactive users
3	Security of login session
4	Display of Trading member code and user id
5	Mandatory collection of margins
6	Display of Exchange user id and TM name on trader workstation
G	Internet Trading
1	Full name and SEBI registration no. on website
2	Display of Investor protection rule, Arbitration rule and rules effecting member - client relationship
3	Display of Risk disclosure documents
4	Order & Trade confirmation through email
5	Default client code while order entry

**NATIONAL STOCK EXCHANGE OF INDIA LIMITED
CAPITAL MARKET OPERATIONS
CIRCULAR**

Circular No: NSE/CMO/0241/2005

Download No: NSE/CMTR/6633

Date: September 13, 2005

Dear Members,

**SYSTEM AUDIT REQUIREMENT FOR CTCL / INTERNET BASED
TRADING FACILITY**

This is in continuation to our circular download nos. NSE/CMTR/6128 dated May 10, 2005, NSE/CMTR/6450 dated July 29, 2005, NSE/CMTR/6529 dated August 18, 2005 and NSE/CMTR/6602 dated September 02, 2005, introducing the requirement of system audit for the members using CTCL and Internet based trading facility and instructing them to submit system audit certificate for the year ended June 30, 2005 before September 15, 2005.

The Exchange has received several requests from the members to provide a format and / or areas which should be subjected to system audit. In view of this, the Exchange in co-ordination with Information Systems Audit and Control Association (ISACA), Mumbai Chapter, has outlined a detailed guideline along with the model format of the certificate to be submitted by the members. Audit parameters for the guideline have been divided into 2 parts. Part A – containing the points forming part of various guidelines and circulars issued by the Exchange in relation to CTCL and Internet based trading facility and for which audit is de rigueur. Part B – containing the points which are comprehensive and form a part of all routine system audit exercises for which a audit is voluntary. These formats are enclosed as Annexure 1 and 2 respectively.

The members are advised to submit system audit certificate duly obtained from a person holding the certificate from CISA /CISSP/ISA, independent of the empanelled vendors of the Exchange.

The members may note that from the half year ending on December 31, 2005 & onwards, audit certificate shall be required to be obtained in this format.

For National Stock Exchange of India Ltd.

Suprabhat Lala

Manager – Capital Market Operations

Encl : Annexure 1 & 2, Summary Sheet

Annexure 1 – Part A

Controls / Processes	Test Case	Results, Observations & Control Risk	Auditor's Risk
<p>The installed CTCL system features are as prescribed by the NSE.</p> <p>The installed CTCL system parameters are as per NSE norms</p>	<p>Risk Management Tools</p> <ul style="list-style-type: none"> • should allow for risk management of the orders placed and online risk monitoring of the orders being placed. <p>CTCL Version</p> <ul style="list-style-type: none"> • Order Gateway Version • Risk Administration / Manager Version • Front End / Order Placement Version 	<p>Results</p>	<p>Opinions</p>
<p>Trading Process</p>	<p>Client ID Verification</p>	<p>Results</p>	<p>Opinions</p>

Controls / Processes	Test Case	Results, Observations & Control Risk	Auditor's Risk
<p>The installed CTCL system allows for placing of trades only for authorized clients.</p> <p>Risk Management</p> <p>The installed CTCL system is capable of assessing the risk of the client as soon as the order comes in and informs the client of acceptance/rejection of the order within a reasonable period.</p> <p>Order /Trade Limit Controls</p> <p>The installed CTCL system provides a system based control facility on the trading limits of the clients and</p>	<p>Only duly authorized client's orders are allowed to be placed.</p> <p>Proprietary order entry mechanism</p> <p>Order entry for Pro types of orders is executed through specific user ids.</p> <p>Order Parameters</p> <p>There is online risk assessment of all orders placed through the CTCL system.</p>		

Controls / Processes	Test Case	Results, Observations & Control Risk	Auditor's Risk
<p>exposures taken by the clients including set pre-defined limits on the exposure and turnover of each client.</p> <p>Order Reconfirmation Facility</p> <p>The installed CTCL system provides for reconfirmation of orders which are larger than that as specified by the member's risk management system .</p> <p>Execution of Orders / Order Logic</p> <p>The installed CTCL system provides a system based control facility over the order input process.</p>	<p>Only orders that are within the parameters specified by the risk management systems are allowed to be placed.</p> <p>The system has a manual override facility for allowing orders that do not fit the system based risk control parameters.</p> <p>Order Numbering Methodology</p> <p>If the system is enabled for</p>		

Controls / Processes	Test Case	Results, Observations & Control Risk	Auditor's Risk
<p>Application Access Control</p> <p>The installed CTCL system provides a system based access control over the CTCL server as well as the risk management and front end dealing applications while providing for security</p>	<p>Internet trading the system has an internal unique order numbering system.</p> <p>Order Matching</p> <p>The system does not have any order matching function and all orders are passed on to the Exchange trading system for matching.</p> <p>Access controls</p> <ul style="list-style-type: none"> • The system allows access to only authorized users • The system has a password mechanism which restricts access to authenticate users. 		Opinions

Controls / Processes	Test Case	Results, Observations & Control Risk	Auditor's Risk
<p>Session Security The installed CTCL system provides for session security for all sessions established with the CTCL server by the front end application.</p> <p>Database Security The installed CTCL system has sufficient controls over the access to and integrity of the database.</p> <p>Encryption The installed CTCL system uses confidentiality protection measures to ensure session confidentiality.</p>	<p>Session Security</p> <ul style="list-style-type: none"> The system uses session identification and authentication measures to restrict sessions to authorized user only. The system uses session security measures like encryption to ensure the confidentiality of sessions initiated. <p>Database Security</p> <ul style="list-style-type: none"> The access to the CTCL database is allowed only to authorized users 		

Controls / Processes	Test Case	Results, Observations & Control Risk	Auditor's Risk
	<p>/ applications.</p> <ul style="list-style-type: none"> • The CTCL database is hosted on a secure platform. • The CTCL database stores the user names / passwords securely. <p>Session Encryption</p> <ul style="list-style-type: none"> • The system uses SSL or similar session confidentiality protection mechanisms. • The system uses a secure storage mechanism for storing of usernames and passwords. 		

Systems Audit of Stock Brokers CTCL

Controls / Processes	Test Case	Results, Observations & Control Risk	Auditor's Risk
<p>The installed CTCL system provides a system based event logging and system monitoring facility which monitors and logs all activities / events arising from actions taken on the gateway / database server, authorized user terminal and transactions processed for clients or otherwise and the same is not susceptible to manipulation.</p>	<ul style="list-style-type: none"> • The system adequately protects the confidentiality of the users trade data. <p>The installed CTCL systems has a provision for On-line surveillance and risk management as per the requirements of NSE and includes</p> <ul style="list-style-type: none"> • Number of Users Logged In / hooked on to the network incl. privileges of each. <p>The installed CTCL systems has a provision for off line monitoring and risk management as per the requirements of NSE and</p>	<p>Results</p>	<p>Opinions</p>

Controls / Processes	Test Case	Results, Observations & Control Risk	Auditor's Risk
	<p>includes reports / logs on</p> <ul style="list-style-type: none"> • Number of Authorized Users • Activity logs • Systems logs • Number of active clients 		
<p>The installed CTCL system has a User Management system as per the requirements of the NSE.</p>	<p>Approved Users</p> <ul style="list-style-type: none"> • Only users approved by the NSE are allowed to access the CTCL system and documentation regarding the same is maintained in the form of <p>➤ User Approval</p>	<p>Results</p>	<p>Opinions</p>

Controls / Processes	Test Case	Results, Observations & Control Risk	Auditor's Risk
	<p>Application</p> <ul style="list-style-type: none"> ➤ Copy of User Qualifications. <p>User Creation</p> <p>New CTCL User IDs are created as per the CTCL guidelines.</p> <p>User ID</p> <p>All users are uniquely identified through the issue of unique CTCL ids.</p> <p>User Disablement</p> <p>Users not compliant with the Exchange Requirements are disabled and event logs maintained.</p>		

Controls / Processes	Test Case	Results, Observations & Control Risk	Auditor's Risk
	<p>User Deletion</p> <p>Users are deleted as per the NSE guidelines.</p> <p>Reissue of User Ids</p> <p>User Ids are reissued as per the NSE guidelines.</p> <p>Locked User Accounts</p> <p>Users whose accounts are locked are unlocked only after documented unlocking requests are made.</p>		
<p>The installed CTCL system Authentication mechanism is as per the guidelines of the NSE</p>	<p>The installed CTCL system uses passwords for authentication.</p> <p>The password policy / standard is documented.</p>	<p>Results</p>	<p>Opinions</p>

Controls / Processes	Test Case	Results, Observations & Control Risk	Auditor's Risk
	<p>The system requests for identification and new password before login into the system.</p> <p>The installed CTCL system's Password features include</p> <ul style="list-style-type: none"> • The Password is masked at the time of entry. • System mandated changing of the password when the user logs in for the first time. • Automatic disablement of the user on entering erroneous password on three consecutive occasions. 		

Controls / Processes	Test Case	Results, Observations & Control Risk	Auditor's Risk
	<ul style="list-style-type: none"> • Automatic expiry of the password on expiry of 14 calendar days. • System controls to ensure that the password is alphanumeric (preferably with one special character), instead of just being alphabets or just numerical. • System controls to ensure that the changed password cannot be the same as of the last password. • System controls to 		

Controls / Processes	Test Case	Results, Observations & Control Risk	Auditor's Risk
	<p>ensure that the Login id of the user and password should not be the same.</p> <ul style="list-style-type: none"> • System controls to ensure that the Password should be of minimum six characters and not more than twelve characters. • System controls to ensure that the Password is encrypted at members end so that employees of the member cannot view the same at any point of time. 		

Controls / Processes	Test Case	Results, Observations & Control Risk	Auditor's Risk
<p>Vendor Certified Network diagram</p> <p>Physical Security</p>	<p>Date of submission to NSE.</p> <p>Verify number of nodes in diagram with actuals.</p> <p>Verify location(s) of nodes in the network.</p> <p>Are adequate provisions in respect of physical security of the hardware / systems at the hosting location and controls on admission of personnel into the location (audit trail of all entries-exits at location etc.)?</p>	<p>Results</p>	<p>Opinions</p>
<p>The Installed CTCL systems backup capability is adequate as per the requirements of the NSE for overcoming loss of product</p>	<p>Are backups of the following system generated files maintained as per the NSE guidelines?</p>	<p>Results</p>	<p>Opinions</p>

Controls / Processes	Test Case	Results, Observations & Control Risk	Auditor's Risk
<p>integrity.</p>	<ul style="list-style-type: none"> • At the CTCL server/gateway level. • Database • Audit Trails • Reports <p>At the CTCL user level</p> <ul style="list-style-type: none"> • Market Watch • Logs • History • Reports • Audit Trails <p>Are backup procedures documented?</p>		

Controls / Processes	Test Case	Results, Observations & Control Risk	Auditor's Risk
	<p>Are backup logs maintained?</p> <p>Have the backups been verified and tested?</p> <p>Are the backup media stored safely in line with the risk involved?</p> <p>Are there any recovery procedures and have the same been tested?</p>		

Annexure 2 – Part B

Controls / Processes	Test Case	Results, Observations & control Risk	Auditors Opinion
<p>The installed CTCL system features are as prescribed by the NSE.</p> <p>The installed CTCL system parameters are as per NSE norms.</p>	<p>Main Features Price Broadcast The system has a feature for receipt of price broadcast data.</p> <p>Order Processing : The system has a feature :</p> <ul style="list-style-type: none"> • which allows order entry and confirmation of orders. • which allows for modification or cancellation of orders placed. <p>Trade Confirmation The system has a feature which enables confirmation of trades.</p> <p>Gateway Parameters</p> <ul style="list-style-type: none"> • Trader ID <p>Market Segment - CM</p> <ul style="list-style-type: none"> • CTCL ID • IP Address • (NSE Network) 	<p>Results</p>	<p>Opinions</p>

Controls / Processes	Test Case	Results, Observations & control Risk	Auditors Opinion
<p>Execution of Orders / Order Logic The installed CTCL system provides a system based control facility over the order input process</p>	<ul style="list-style-type: none"> • VSAT ID • Leased Line ID <p>Market Segment – F&O</p> <ul style="list-style-type: none"> • CTCL ID • IP Address • (NSE Network) • VSAT ID • Leased Line ID <p>Order Entry The system has order placement controls that allow only orders matching the system parameters to be placed.</p> <p>Order Modification The system allows for the modification of orders placed.</p> <p>Order Cancellation The system allows for the cancellation of orders placed.</p>		

Systems Audit of Stock Brokers CTCL

Controls / Processes	Test Case	Results, Observations & control Risk	Auditors Opinion
	<p>Order Outstanding Check The system has a feature for checking the outstanding orders i.e. the orders that have not yet traded or partially traded.</p>		
<p>Trades Information The installed CTCL system provides a system based control facility over the trade confirmation process.</p> <p>Settlement of Trades The installed CTCL system provides a system based reports on contracts, margin requirements, payment and delivery obligations.</p>	<p>Trade Confirmation and Reporting Feature Should allow the confirmation and reporting of the orders that have resulted in trade. Margin Reports feature Should allow for the reporting of client wise / user wise margin requirements as well as payment and delivery obligations.</p>	Results	Opinions

Controls / Processes	Test Case	Results, Observations & control Risk	Auditors Opinion
<p>Additional Access Control Security The installed CTCL system provides a dual factor authentication system for the access to the various CTCL components.</p>	<p>Extra Authentication Security</p> <ul style="list-style-type: none"> • The systems uses additional authentication measures like smart cards, biometric authentication or tokens etc. • The system has a second level of password control for critical features. 	<p>Results</p>	<p>Opinions</p>
<p>To ensure information security for the Organisation in general and the installed CTCL system in particular policy and procedures as per the NSE requirements must be established, implemented and maintained.</p>	<p>Does the organization's documented policy and procedures include the following policies and if so are they in line with the NSE requirements?</p> <ul style="list-style-type: none"> • Information Security Policy • Password Policy • User Management and Access Control Policy • Network Security Policy • Application Software Policy • Change Management Policy • Backup Policy 	<p>Results</p>	<p>Opinions</p>

Controls / Processes	Test Case	Results, Observations & control Risk	Auditors Opinion
<p>Does the Organisation have a suitable documented Business Continuity or Disaster Recovery or Incident Response process commensurate with the organisation size and risk profile to ensure a high degree of availability of the installed CTCL system?</p> <p>How will the organization assure customers prompt access to their funds and securities in the event the</p>	<ul style="list-style-type: none"> • BCP and Response Management Policy • Audit Trail Policy <p>Does the organisation follow any other policy or procedures or documented practices that are relevant?</p> <p>Is there any documentation on Business Continuity / Disaster Recovery / Incident Response?</p> <p>Does a BCP / DRP plan exist?</p> <p>If a BCP/DRP plan exists, has it been tested?</p> <p>Are there any documented incident response procedures?</p> <p>Are there any documented risk assessments?</p> <p>Does the installation have a Call List for emergencies maintained?</p> <p>Network / Communication Link Backup</p> <ul style="list-style-type: none"> • Is the backup network link adequate in case of failure of the primary link to the NSE? • Is the backup network link adequate in case of failure of the primary link connecting the CTCL users? 	<p>Results</p>	<p>Opinions</p>

Controls / Processes	Test Case	Results, Observations & control Risk	Auditors Opinion
<p>organization determines it is unable to continue its business in the primary location?</p>	<ul style="list-style-type: none"> • Is there an alternate communications path between customers and the firm? • Is there an alternate communications path between the firm and its employees? • Is there an alternate communications path with critical business constituents, banks and regulators? 		
<p>The CTCL system has been installed after complying with the various NSE circulars Insurance</p>	<p>Copy of Undertaking provided regarding the CTCL system as per relevant circulars. Copy of application of approval for Internet Trading, if any. The insurance policy of the Member covers the additional risk of usage of CTCL and or Internet Trading.</p>	Results	Opinions
<p>To ensure system integrity and stability all changes to the installed CTCL system are planned, evaluated for risk, tested, approved and documented.</p>	<p>Planned Changes Are changes to the installed CTCL system made in a planned manner? Are they made by duly authorized personnel? Risk Evaluation Process Is the risk involved in the implementation of the changes duly factored in?</p>	Results	Opinions

Controls / Processes	Test Case	Results, Observations & control Risk	Auditors Opinion
<p>How will the organization assure customers prompt access to their funds and</p>	<p>Change Approval Is the implemented change duly approved and process documented? Pre-implementation process Is the change request process documented? Change implementation process? Is the change implementation process supervised to ensure system integrity and continuity? Post implementation process Is user acceptance of the change documented? Unplanned Changes In case of unplanned changes, are the same duly authorized and the manner of change documented later? In case of members self developed CTCL system SDLC documentation and procedures if the installed CTCL system is developed in-house.</p>		
		Results	Opinions

Controls / Processes	Test Case	Results, Observations & control Risk	Auditors Opinion
<p>securities in the event the organization determines it is unable to continue its business in the primary location</p>	<ul style="list-style-type: none"> • Gateway / Database Server? • CTCL router? • Network Switch? <p>Infrastructure breakdown backup?</p> <p>Are there suitable arrangements made for the breakdown in any infrastructure components like</p> <ul style="list-style-type: none"> • Electricity? • Water? • Air Conditioning? <p>Primary Site Unavailability</p> <p>Have any provision for alternate physical location of employees been made in case of non availability of the primary site</p> <p>Disaster Recovery?</p> <p>Are there suitable provisions for Books and records backup and recovery (hard copy and electronic).?</p> <p>Have all mission-critical systems been identified and provision for backup for such systems been made?</p> <p>Day Begin Day End</p>		
<p>Are documented practices available for various system</p>		Results	Opinions

Controls / Processes	Test Case	Results, Observations & control Risk	Auditors Opinion
<p>processes?</p> <p>Is a log of success / failure of the process maintained?</p> <p>In case of failure, is there an escalation procedure implemented?</p>	<p>Other system processes</p> <ul style="list-style-type: none"> • Audit Trails • Access Logs • Transaction Logs • Backup Logs • Alert Logs • Activity Logs • Retention Period • Misc <p>Day Begin</p> <p>Day End</p> <p>Other system processes</p> <p>Details of the various response procedures incl. for</p> <p>Access Control failure</p> <p>Day Begin failure</p> <p>Day End failure</p> <p>Other system Processes failure</p>		

Controls / Processes	Test Case	Results, Observations & control Risk	Auditors Opinion
<p>Access Control Firewall Anti virus</p>	<p>As given in Area (e) Is a firewall implemented? Is a malicious code protection system implemented? If Yes, then</p> <ul style="list-style-type: none"> • Are the definition files up-to-date? • Any instances of infection? • Last date of virus check of entire system 	<p>Results</p>	<p>Opinions</p>

SUMMARY SHEET

INFORMATION SYSTEM AUDIT OF _____

SrNo	Area of Audit	Compliance Part A	Compliance Part B	Report Reference
1	Are existing features and system parameters implemented in the CTCL system in place at the member's premises?	S / M / W (Explained below)		
2	Are input, processing and output controls in respect of CTCL operations adequate?			
3	Is the application security commensurate to the size and nature of application?			
4	Is Event logging and system monitoring observed?			
5	Are User management norms defined and observed?			
6	Are Password policy/standards defined and observed?			
7	Are working processes in adherence with the policies and procedures defined?			

SrNo	Area of Audit	Compliance Part A	Compliance Part B	Report Reference
8	Is the Network managed adequately in relation to size and nature of operations and are necessary controls present?			
9	Are Change management and version controls documented and practised?			
10	Are Backup systems present, of adequate size and are procedures for backup prescribed?			
11	Is there a Business continuity and disaster recovery plan in place and made known to all employees?			
12	Is documentation for system processes maintained?			
13	Are Security features such as access control, network, firewalls and virus protection present and updated regularly?			
14	Is there any other area/aspect which in the auditors opinion is not complied with and which is significant and material in relation to the size and the nature of the operations?			

Note : Process Area Controls Evaluation Criteria

Control Evaluation Criteria	Description
Strong	<p>The controls are defined as Strong if the following criteria are met.</p> <p>Implemented controls fully comply with the stated objectives and no material weaknesses are found.</p>
Medium	<p>The controls are defined as Medium if the following criteria are met.</p> <p>Implemented controls substantially comply with the stated objectives and no material weakness results in a substantial risk exposure due to the non-compliance with the criteria.</p> <p>Compensatory controls exist which reduce the risk exposure to make it immaterial vis-à-vis the non-compliance with the criteria.</p>

Control Evaluation Criteria	Description
Weak	<p>The controls are defined as Weak if the following criteria are met.</p> <p>Implemented controls materially fail to comply with the stated control objectives.</p> <p>Compensating controls fail to reduce the risk so as to make it immaterial vis-à-vis the non-compliance with the compliance criteria.</p>

NATIONAL STOCK EXCHANGE OF INDIA LIMITED.

CAPITAL MARKET OPERATIONS

CIRCULAR

Circular No: NSE/CMO/0242/2005

Download No: NSE/CMTR/6638

Date: September 14, 2005

Dear Members,

AUDIT RECOMMENDATIONS IN SYSTEM AUDIT CERTIFICATE

While going through the system audit certificate and the audit recommendations thereto submitted by you, it is observed that in some cases the auditors have made certain recommendations. While you will be making necessary arrangements at your end to implement these audit recommendations, with a view to ensure that all the audit recommendations are implemented by December 31, 2005, we bring this matter to your notice.

We would like you to please ensure that the system audit certificate for the half year ending on December 31, 2005 should categorically certify that all the audit recommendations given in relation to the system audit certificate for the half year ended June 30, 2005 have been duly implemented.

For National Stock Exchange of India Ltd.

Suprabhat Lala

Manager – Capital Market Operations

**NATIONAL STOCK EXCHANGE OF INDIA LTD.
CAPITAL MARKET OPERATIONS**

Circular No: NSE/CMO/0247/2005

Download No: NSE/CMTR/6699

Date: September 27, 2005

Dear Members,

COMPUTER TO COMPUTER LINK FACILITY (CTCL) FOR ONLINE BOOK BUILDING PROCESS

The Exchange offers infrastructural facility to enable the members conducting online Initial Public Offering (IPO) through the Book Building process. It operates a fully automated screen based bidding system called NEAT-IPO that enables members to enter bids directly from their offices through a sophisticated telecommunication network.

Book Building through the NSE system provides a fair, cost & time efficient and transparent method for collecting bids using latest electronic trading systems as compared with a normal IPO. The Exchange is planning to offer a new facility under which members would be allowed to use their own trading front-end software in order to place bids for Initial Public Offers on the Exchange i.e the members desirous of availing of this facility can develop their own software running under any suitable hardware/software platform of their own choice or procure the same from the vendors empanelled with the Exchange. This additional facility will be available to members, in accordance with the charge structure in place from time to time. The present charge structure will be as under

:

Particulars	Members developing in-house	Members using software from empanelled vendors
One Time charge	Rs. 1,00,000/-	Nil
* Annual charges	Rs. 50,000/-	Rs. 10,000/-

Systems Audit of Stock Brokers CTCL

* For the members applying before October 31, 2005, there shall not be any annual charge for the financial year 2005-2006. For the members applying after October 31, 2005, annual charges will be made applicable on pro-rata basis for the financial 2005-2006 and annual charges will be applicable as above thereafter.

For further inquiries, you may speak to Ms. Saumya Dixit / Mr. Abhishek Mahesh on 022 – 2659 8150.

For **National Stock Exchange of India Limited.**

Suprabhat Lala

Manager – Capital Market

NATIONAL STOCK EXCHANGE OF INDIA LIMITED.

CAPITAL MARKET OPERATIONS

Circular No: NSE/CMO/006/2006

Download No: NSE/CMTR/7065

Date: January 13, 2006

Dear Members,

**SYSTEM AUDIT REQUIREMENT FOR CTCL / INTERNET BASED TRADING
FACILITY FOR HALF YEAR ENDED DECEMBER 31, 2005**

With respect to the system audit certificate to be obtained from a person holding a certificate from CISA /CISSP/ISA, independent of the empanelled vendors of the Exchange in the format given vide our circular No. NSE/CMO/0241/2005 dated September 13, 2005; the members are advised to ensure the following:

1. System audit certificate for half year ended December 31, 2005, is submitted **on or before January 31, 2006.**
2. The certificate must contain the name and regn. no. of the systems auditor given by CISA/CISSP/ISA alongwith the place and date at the end of the report.
3. The system audit certificate for the half year ending on December 31, 2005 should categorically certify that all the audit recommendations given in relation to the system audit certificate for the half year ended June 30, 2005 have been duly implemented.
4. Late submission **charges of Rs. 100/- per day** w.e.f. February 01, 2006 will be levied on the members failing to submit the system audit report on or before January 31, 2006. Further, w.e.f March 01, 2006, the members shall render themselves liable for withdrawal of trading facility through CTCL for non-submission of system audit report.
5. Non-compliant members shall render themselves liable for action besides as enumerated above, as may be deemed fit by the Exchange.

Systems Audit of Stock Brokers CTCL

- 6. The requirement of the submission of network diagram separately on a half yearly basis shall be discontinued w.e.f the half year ending December 31, 2005, as it is a part of the system audit certificate.**

For any further clarifications, trading members are advised to contact the following officials: Ms Madhvi Gogate/ Ms. Purvi Jobanputra/ Mr. Chintan Dave at 26598150.

For and on behalf of

National Stock Exchange of India Ltd.

**Suprabhat
Asst. Vice President – Capital Market**

Lala

NATIONAL STOCK EXCHANGE OF INDIA LIMITED.

CAPITAL MARKET OPERATIONS

Circular No: NSE/CMO/035/2006

Download No: NSE/CMTR/7634

Date: June 28, 2006

Dear Members,

**SYSTEM AUDIT REQUIREMENT FOR CTCL / INTERNET BASED TRADING
FACILITY FOR HALF YEAR ENDED JUNE 30, 2006**

With respect to the system audit certificate to be obtained from a person holding certificate from CISA /CISSP/ISA, independent of the empanelled vendors of the Exchange and/or partners/Directors of the Trading Members, members are advised to ensure that the system audit certificate for half year ended June 30, 2006, is submitted **on or before July 31, 2006**.

The revised format based on representations from members is attached as Annexure 1. Members are requested to use the revised format only.

Members may also note the following points:

1. The certificate must contain the name and regn. no. of the systems auditor given by CISA/CISSP/ISA along with the place and date at the end of the report.
2. Members may note that the blank fields in Part A and Part C of the summary sheet of the System Audit report are to be commented upon by the system auditor.
3. Members may also note that all the branches where the CTCL facility is provided, should be audited and **ONE** consolidated summary sheet should be sent to the Exchange.
4. The system audit certificate for the half year ending on June 30, 2006 should categorically certify that all the audit recommendations given in relation to the system audit certificate for the half year ended December 31, 2005 have been duly implemented.

Systems Audit of Stock Brokers CTCL

5. Late submission **charges of Rs. 100/- per day** w. e. f. August 01, 2006 will be levied on the members failing to submit the system audit report on or before July 31, 2006. Further, w. e. f September 01, 2006, members shall render themselves liable for withdrawal of trading facility through CTCL for non-submission of system audit report.
6. Non-compliant members shall render themselves liable for action besides as enumerated above, as may be deemed fit by the Exchange.

For any further clarifications, trading members are advised to contact the following officials: Ms Madhvi Gogate/ Ms. Purvi Jobanputra / Mr. Chintan Dave / Mr. Pramod Dave at 26598150.

For and on behalf of

National Stock Exchange of India Ltd.

Suprabhat Lala

Asst. Vice President – Capital Market

Annexure 1: Part A

Controls / Processes	Test Case	Results, Observations & Control Risk	Auditor's Risk
<p>The installed CTCL system features are as prescribed by the NSE.</p> <p>The installed CTCL system parameters are as per NSE norms.</p>	<p>Risk Management Tools</p> <ul style="list-style-type: none"> • should allow for the risk management of the orders placed and online risk monitoring of the orders being placed. <p>CTCL Version</p> <ul style="list-style-type: none"> • Order Gateway Version • Risk Administration / Manager Version • Front End / Order Placement Version 	<p>Results</p>	<p>Opinions</p>
<p>Trading Process</p> <p>The installed CTCL system allows for placing of trades only for authorized clients.</p> <p>Risk Management</p>	<p>Client ID Verification</p> <p>Only duly authorized client's orders are allowed to be placed.</p> <p>Proprietary order entry mechanism</p> <p>Order entry for Pro types of orders is executed through specific user ids.</p> <p>Order Parameters</p>	<p>Results</p>	<p>Opinions</p>

Controls / Processes	Test Case	Results, Observations & Control Risk	Auditor's Risk
<p>The installed CTCL system is capable of assessing the risk of the client as soon as the order comes in and informs the client of acceptance/rejection of the order within a reasonable period.</p>	<p>There is online risk assessment of all orders placed through the CTCL system.</p>		
<p>Order /Trade Limit Controls</p>			
<p>The installed CTCL system provides a system based control facility on the trading limits of the clients and exposures taken by the clients including set pre-defined limits on the exposure and turnover of each client.</p>	<p>Only orders that are within the parameters specified by the risk management systems are allowed to be placed.</p> <p>The system has a manual override facility for allowing the orders that do not fit the system based risk control parameters.</p> <p>Order Numbering Methodology</p> <p>If the system is enabled for internet trading the system has an internal unique order numbering system.</p>		

Controls / Processes	Test Case	Results, Observations & Control Risk	Auditor's Risk
<p>Order Reconfirmation Facility The installed CTCL system provides for reconfirmation of orders which are larger than that as specified by the member's risk management system .</p>	<p>Order Matching The system does not have any order matching function and all orders are passed on to the Exchange trading system for matching.</p>		
<p>Execution of Orders / Order Logic The installed CTCL system provides a system based control facility over the order input process.</p>			
<p>Application Access Control The installed CTCL system provides a system based access control over the CTCL server as well as the</p>	<p>Access controls</p> <ul style="list-style-type: none"> • The system allows access to only authorized users. 	Results	Opinions

Controls / Processes	Test Case	Results, Observations & Control Risk	Auditor's Risk
<p>CTCL server as well as the risk management and front end dealing applications while providing for security.</p>	<ul style="list-style-type: none"> The system has a password mechanism which restricts access to authenticate users. 		
<p>Session Security The installed CTCL system provides for session security for all sessions established with the CTCL server by the front end application.</p>	<p>Session Security</p> <ul style="list-style-type: none"> The system uses session identification and authentication measures to restrict sessions to authorized user only. The system uses session security measures like encryption to ensure the confidentiality of sessions initiated. 		
<p>Database Security The installed CTCL system has sufficient controls over the access to and integrity of the database.</p>	<p>Database Security</p> <ul style="list-style-type: none"> The access to the CTCL database is allowed only to authorized users / applications. The CTCL database is hosted on a secure platform. 		

Controls / Processes	Test Case	Results, Observations & Control Risk	Auditor's Risk
<p>Encryption</p> <p>The installed CTCL system uses confidentiality protection measures to ensure session confidentiality.</p>	<ul style="list-style-type: none"> • The CTCL database stores the user names / passwords securely. <p>Session Encryption</p> <ul style="list-style-type: none"> • The system uses SSL or similar session confidentiality protection mechanisms. • The system uses a secure storage mechanism for storing of usernames and passwords. • The system adequately protects the confidentiality of the users trade data. 		
<p>The installed CTCL system provides a system based event logging and system monitoring facility which monitors and logs all activities / events arising from actions taken on the gateway / database server, authorized user terminal and</p>	<p>The installed CTCL systems has a provision for On-line surveillance and risk management as per the requirements of NSE and includes</p> <ul style="list-style-type: none"> • Number of Users Logged In / hooked on to the network incl. privileges of each. 	Results	Opinions

Systems Audit of Stock Brokers CTCL

Controls / Processes	Test Case	Results, Observations & Control Risk	Auditor's Risk
<p>transactions processed for clients or otherwise and the same is not susceptible to manipulation.</p>	<p>The installed CTCL systems has a provision for off line monitoring and risk management as per the requirements of NSE and includes reports / logs on</p> <ul style="list-style-type: none"> • Number of Authorized Users • Activity logs • Systems logs • Number of active clients 		
<p>The installed CTCL system has an User Management system as per the requirements of the NSE.</p>	<p>Approved Users</p> <ul style="list-style-type: none"> • Only the users approved by the NSE are allowed to access the CTCL system and documentation regarding the same is maintained in the form of <ul style="list-style-type: none"> ➤ User Approval Application ➤ Copy of User Qualifications <p>User Creation</p> <p>New CTCL User IDs are created as per the CTCL guidelines.</p>	<p>Results</p>	<p>Opinions</p>

Controls / Processes	Test Case	Results, Observations & Control Risk	Auditor's Risk
	<p>User ID</p> <p>All users are uniquely identified through issue of unique CTCL ids.</p> <p>User Disablement</p> <p>Users not compliant with the Exchange Requirements .are disabled and event logs maintained</p> <p>User Deletion</p> <p>Users are deleted as per the NSE guidelines.</p> <p>Reissue of User Ids</p> <p>User Ids are reissued as per the NSE guidelines.</p> <p>Locked User Accounts</p> <p>Users whose accounts are locked are unlocked only after documented unlocking requests are made.</p>		
<p>The installed CTCL system Authentication mechanism is as</p>	<p>The installed CTCL system's uses passwords for authentication.</p>	<p>Results</p>	<p>Opinions</p>

Controls / Processes	Test Case	Results, Observations & Control Risk	Auditor's Risk
<p>per the guidelines of the NSE</p>	<p>The password policy / standard is documented. The system requests for identification and new password before login into the system. The installed CTCL system's Password features include</p> <ul style="list-style-type: none"> • The Password is masked at the time of entry. • System mandated changing of password when the user logs in for the first time. • Automatic disablement of the user on entering erroneous password on three consecutive occasions. • Automatic expiry of the password on expiry of 14 calendar days. • System controls to ensure that the password is alphanumeric (preferably with one special character), instead of just being alphabets or just numerical. 		

Controls / Processes	Test Case	Results, Observations & Control Risk	Auditor's Risk
	<ul style="list-style-type: none"> • System controls to ensure that the changed password cannot be the same as of the last password. • System controls to ensure that the Login id of the user and password should not be the same. • System controls to ensure that the Password should be of minimum six characters and not more than twelve characters. • System controls to ensure that the Password is encrypted at members end so that the employees of the member cannot view the same at any point of time. 		
Vendor Certified Network diagram	Date of submission to NSE Verify number of nodes in diagram with actuals Verify location(s) of nodes in the network.	Results	Opinions

Systems Audit of Stock Brokers CTCL

Controls / Processes	Test Case	Results, Observations & Control Risk	Auditor's Risk
Physical Security	Are there adequate provisions in respect of physical security of the hardware / systems at the hosting location and controls on admission of personnel into the location (audit trail of all entries-exits at location etc.)?	Results	Opinions
The installed CTCL systems backup capability is adequate as per the requirements of the NSE for overcoming loss of product integrity.	<p>Are backups of the following system generated files maintained as per the NSE guidelines?</p> <ul style="list-style-type: none"> • At the CTCL server/gateway level • Database • Audit Trails • Reports <p>At the CTCL user level</p> <ul style="list-style-type: none"> • Market Watch • Logs • History • Reports 		

Controls / Processes	Test Case	Results, Observations & Control Risk	Auditor's Risk
	<ul style="list-style-type: none"> • Audit Trails <p>Are backup procedures documented? Are backup logs maintained? Have the backups been verified and tested? Are the backup media stored safely in line with the risk involved? Are there any recovery procedures and have the same been tested?</p>		

Part B

Controls / Processes	Test Case	Results, Observations & control Risk	Auditors Opinion
<p>The installed CTCL system features are as prescribed by the NSE.</p> <p>The installed CTCL system parameters are as per NSE norms</p>	<p>Main Features Price Broadcast The system has a feature for receipt of price broadcast data. Order Processing : The system has a feature :</p> <ul style="list-style-type: none"> • which allows order entry and confirmation of orders. • which allows for the modification or cancellation of orders placed. <p>Trade Confirmation The system has a feature which enables the confirmation of trades. Gateway Parameters</p> <ul style="list-style-type: none"> • Trader ID 	<p>Results</p>	<p>Opinions</p>

<p>Execution of Orders / Order Logic The installed CTCL system provides a system based control facility over the order input process.</p>	<p>Market Segment - CM</p> <ul style="list-style-type: none"> • CTCL ID • IP Address • (NSE Network) • VSAT ID • Leased Line ID <p>Market Segment – F&O</p> <ul style="list-style-type: none"> • CTCL ID • IP Address • (NSE Network) • VSAT ID • Leased Line ID 		
<p>Order Entry The system has order placement controls that allow only orders matching the system parameters to be placed. Order Modification The system allows for the modification of orders placed.</p>		<p>Results</p>	<p>Opinions</p>

Systems Audit of Stock Brokers CTCL

<p>Trades Information The installed CTCL system provides a system based control facility over the trade confirmation process.</p> <p>Settlement of Trades The installed CTCL system provides a system based reports on contracts, margin requirements, payment and delivery obligations.</p> <p>Additional Access Control Security The installed CTCL system provides a dual factor authentication</p>	<p>Order Cancellation The system allows for the cancellation of the orders placed.</p> <p>Order Outstanding Check The system has a feature for checking the outstanding orders i.e. the orders that have not yet traded or partially traded.</p> <p>Trade Confirmation and Reporting Feature Should allow the confirmation and reporting of the orders that have resulted in trade</p> <p>Margin Reports feature Should allow for the reporting of client wise / user wise margin requirements as well as payment and delivery obligations.</p> <p>Extra Authentication Security</p> <ul style="list-style-type: none"> The systems uses additional authentication measures like smart cards, biometric authentication or tokens etc. 			Opinions
		Results		

<p>system for the access to the various CTCL components.</p>	<ul style="list-style-type: none"> • The system has a second level of password control for critical features. 		
<p>To ensure information security for the Organisation in general and the installed CTCL system in particular, policy and procedures as per the NSE requirements must be established, implemented and maintained.</p>	<p>Does the organization's documented policy and procedures include the following policies and if so are they in line with the NSE requirements?</p> <ul style="list-style-type: none"> • Information Security Policy • Password Policy • User Management and Access Control Policy • Network Security Policy • Application Software Policy • Change Management Policy • Backup Policy • BCP and Response Management Policy • Audit Trail Policy <p>Does the organisation follow any other policy or procedures or documented practices that are relevant?</p>	<p>Results</p>	<p>Opinions</p>
<p>Does the Organisation have a suitable documented Business Continuity or</p>	<p>Is there any documentation on Business Continuity / Disaster Recovery / Incident Response?</p>	<p>Results</p>	<p>Opinions</p>

<p>Disaster Recovery or Incident Response process commensurate with the organisation size and risk profile to ensure a high degree of availability of the installed CTCL system.</p> <p>How will the organization assure customers prompt access to their funds and securities in the event the organization determines it is unable to continue its business in the primary location?</p>	<p>Does a BCP / DRP plan exist? If a BCP/DRP plan exists, has it been tested? Are there any documented incident response procedures? Are there any documented risk assessments? Does the installation have a Call List for emergencies maintained?</p> <p>Network / Communication Link Backup</p> <ul style="list-style-type: none"> • Is the backup network link adequate in case of the failure of the primary link to the NSE? • Is the backup network link adequate in case of the failure of the primary link connecting the CTCL users? • Is there an alternate communications path between customers and the firm? • Is there e an alternate communications path between the firm and its employees? • Is there an alternate communications path with critical business constituents, banks and regulators? 	
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<p>The CTCL system has been installed after complying with the various NSE circulars.</p> <p>Insurance</p>	<p>Copy of Undertaking provided regarding the CTCL system as per relevant circulars. Copy of application of approval for Internet Trading, if any.</p> <p>The insurance policy of the Member covers the additional risk of usage of CTCL and or Internet Trading.</p>	<p>Results</p>	<p>Opinions</p>
<p>To ensure system integrity and stability all changes to the installed CTCL system are planned, evaluated for risk, tested, approved and documented.</p>	<p>Planned Changes Are changes to the installed CTCL system made in a planned manner? Are they made by duly authorized personnel? Risk Evaluation Process Is the risk involved in the implementation of the changes duly factored in? Change Approval Is the implemented change duly approved and process documented? Pre-implementation process Is the change request process documented?</p>	<p>Results</p>	<p>Opinions</p>

<p>How will the organization assure customers prompt access to their funds and securities in the event the organization determines it is unable to continue its business in the primary location?</p>	<p>Change implementation process Is the change implementation process supervised to ensure system integrity and continuity Post implementation process Is user acceptance of the change documented? Unplanned Changes In case of unplanned changes, are the same duly authorized and the manner of change documented later? In case of members self developed CTCL system SDLC documentation and procedures if the installed CTCL system is developed in-house?</p>	<p>Results</p>	<p>Opinions</p>
<p>System Failure Backup Are there suitable backups for failure of any of the critical system components like? <ul style="list-style-type: none"> • Gateway / Database Server • CTCL router • Network Switch Infrastructure breakdown backup Are there suitable arrangements made for the</p>			

	<p>breakdown in any infrastructure components like?</p> <ul style="list-style-type: none"> • Electricity • Water • Air Conditioning <p>Primary Site Unavailability</p> <p>Have any provision for alternate physical location of employees been made in case of non availability of the primary site?</p> <p>Disaster Recovery</p> <p>Are there suitable provisions for Books and records backup and recovery (hard copy and electronic)?</p> <p>Have all mission-critical systems been identified and provision for backup for such systems been made?</p>		
<p>Are documented practices available for various system processes?</p>	<p>Day Begin</p> <p>Day End</p> <p>Other system processes</p> <ul style="list-style-type: none"> • Audit Trails • Access Logs • Transaction Logs • Backup Logs 	<p>Results</p>	<p>Opinions</p>

<p>Is a log of success / failure of the process maintained?</p> <p>In case of failure, is there an escalation procedure implemented?</p>	<ul style="list-style-type: none"> • Alert Logs • Activity Logs • Retention Period • Misc <p>Day Begin Day End</p> <p>Other system processes Details of the various response procedures incl. for Access Control failure Day Begin failure Day End failure Other system Processes failure</p>	<p>Results</p>	<p>Opinions</p>
<p>Access Control Firewall Anti virus</p>	<p>As given in Area (e)</p> <p>Is a firewall implemented?</p> <p>Is a malicious code protection system implemented? If Yes, then</p> <ul style="list-style-type: none"> • Are the definition files up-to-date? • Any instances of infection? • Last date of virus check of the entire system 		

SUMMARY SHEET

INFORMATION SYSTEM AUDIT OF _____

SrNo	Area of Audit	Compliance Part A S / M / W	Compliance Part B S / M / W	Report Reference
1	Are existing features and system parameters implemented in the CTCL system in place at the member's premises?			
2	Are input, processing and output controls in respect of CTCL operations adequate?			
3	Is the application security commensurate to the size and nature of application?			
4	Is Event logging and system monitoring observed?			
5	Are User management norms defined and observed?		NA	
6	Are Password policy/standards defined and observed?		NA	

Systems Audit of Stock Brokers CTCL

7	Are working processes in adherence with the policies and procedures defined?		NA	
8	Is the Network managed adequately in relation to size and nature of operations and are necessary controls present?		NA	
9	Are Change management and version controls documented and practiced?	NA		
10	Are Backup systems present, of adequate size and are procedures for backup prescribed?		NA	
11	Is there a Business continuity and disaster recovery plan in place and made known to all employees?	NA		
12	Is documentation for system processes maintained?	NA		
13	Are Security features such as access control, network, firewalls and virus protection present and updated regularly?	NA		

Important NSE Circulars

14	Is there any other area/aspect which in the auditors opinion is not complied with and which is significant and material in relation to the size and the nature of the operations?	NA	NA	
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Sr No	Area of Audit	Compliance Part C
1	Whether the required details of all the CTCL ids created in the CTCL server of the trading member, for any purpose (viz. administration, branch administration, mini-administration, surveillance, risk management, trading, view only, testing, etc) and any changes therein, have been uploaded as per the requirement of the Exchange? If no, please give details	YES / NO
2	Whether all the CTCL user ids created in the CTCL server of the trading member have been mapped to 12 digit codes on a one-to-one basis and a record of the same is maintained?	YES / NO

Systems Audit of Stock Brokers CTCL

Note: Process Area Controls Evaluation Criteria

Control Evaluation Criteria	Description
Strong	<p>The controls are defined as Strong if the following criteria are met</p> <p>Implemented controls fully comply with the stated objectives and no material weaknesses are found.</p>
Medium	<p>The controls are defined as Medium if the following criteria are met</p> <p>Implemented controls substantially comply with the stated objectives and no material weakness result in a substantial risk exposure due to the non-compliance with the criteria.</p> <p>Compensatory controls exist which reduce the risk exposure to make it immaterial vis-à-vis the non-compliance with the criteria.</p>
Weak	<p>The controls are defined as Weak if the following criteria are met:</p> <p>Implemented controls materially fail to comply with the stated control objectives.</p> <p>Compensating controls fail to reduce the risk so as to make it immaterial vis-à-vis the non-compliance with the compliance criteria.</p>

Annexure V

Important BSE Circulars

Notice no : 20070517-26

Notice date : Thursday, May 17, 2007

Segment Name : General

**SUBJECT : SYSTEM AUDIT REQUIREMENTS & SUBMISSION OF SYSTEM
AUDIT REPORT, NETWORK DIAGRAM & SSL CERTIFICATE.**

Contents

In order to ensure the reliability of the IML / Internet Trading Systems used by the Trading Members, the Exchange has decided to make it obligatory on the part of the Trading Members to get their IML / Internet Trading Systems audited by Certified Systems Auditor and Submit a report to the Exchange.

Accordingly, the Trading Members who have availed of the IML facility from the Exchange are advised to submit a Systems Audit Report in the prescribed format for the year ending March 31, 2007 by June 30, 2007.

The Trading Members are required to Note the following with regards to the Systems Audit:

1. The System Audit should be carried out by CISA / ISA / CISSP Certified Systems Auditor and their Name & Registration Number should be mentioned on the certificate submitted.
2. The System Audit would have to be carried out for all the Branches where IML facility is provided and one consolidated report should be submitted to the Exchange.
3. It would be mandatory for the Trading Member to submit **Annexure A & Summary Sheet (Annexure C)** of the System Audit Report duly completed by the System Auditor.
4. It would be voluntary for the Trading Member to submit **Annexure B** of the System Audit Report.

Systems Audit of Stock Brokers CTCL

Trading member are also required to submit the following documents / the certificates to the Exchange by June 30, 2007.

- Network Diagram duly certified by the Vendor showing the number and location of nodes.
- SSL (Secured Socket Layer) certificate or any other similar mechanism, which adequately protects the confidentiality of trade data.

In case of any further clarification, the Trading Members may contact the following Officials on telephone no 22721233/34.

Sr. No.	Name of Official	Department	Extension No.
1.	Mr. Devendra Kulkarni.	DOT	8317
2.	Mrs. Jyoti Thukral	DOSS	8214

The Trading Members may please note that non-submission of the above documents would be viewed seriously and necessary actions would be initiated against such Trading Members.

P. K. Ramesh
General Manager - DOSS
Manager - DOT

Dilip P. Oak
General

THIS IS A COMPUTER GENERATED NOTICE AND DOES NOT REQUIRE SIGNATURE

The Attachment files

System audit format.zip

Certain scanned images /attachments may not be clear due to poor quality of documents received. Please contact the Exchange for any further clarifications.

[Previous](#) [Index](#) [Next](#)

Annexure- A

Areas of Audit	Findings & Observations	Auditor's Remarks
<p>Access controls</p> <ul style="list-style-type: none"> • The system allows access to only authorized users. • System requests for the identification and new password before login into the system. 		
<p>Session Encryption</p> <ul style="list-style-type: none"> ◆ The system uses SSL or similar session confidentiality protection Mechanisms. ◆ The system uses a secure storage mechanism for storing of usernames and passwords. • The system adequately protects the confidentiality of the users trade data. • Session identification and authentication measures are used to restrict sessions to authorized user only. • The system used security encryption to ensure the confidentiality off sessions initiated. • Session initiation and termination events are logged and audited. • The system allows only authorized 		

Systems Audit of Stock Brokers CTCL

<p>and validated users to establish a session to the system.</p> <ul style="list-style-type: none"> • System should allow authorized administrative users to terminate a users session. 		
<p>Database Security</p> <ul style="list-style-type: none"> ◆ The access to the IML database is allowed only to authorized users / Applications. i.e. ◆ The IML database is hosted on a secure platform. <ul style="list-style-type: none"> • The IML database stores the user names / passwords securely. • The database used to store/retrieve transaction information is secured. 		
<p>Online Risk Management Tools</p> <ul style="list-style-type: none"> • Online risk assessment of the orders to be placed. • Online risk monitoring of the orders being placed. • System should not allow manual placement for allowing orders that do not fit the system based risk control parameter. • Order that fail the risk management criteria should be logged and audited. • System should allow the authorized administrative user to alter the risk parameters of users. 		
<p>Backup procedure for</p>		

<p>IML Application level</p> <ul style="list-style-type: none"> ◆ Database ◆ Audit Trails <ul style="list-style-type: none"> • Reports <p>At the IML user level</p> <ul style="list-style-type: none"> ◆ Market Watch ◆ Logs ◆ History ◆ Reports <ul style="list-style-type: none"> • Audit Trails <table border="1" data-bbox="394 699 873 1501"> <thead> <tr> <th></th> <th>Yes</th> <th>No</th> </tr> </thead> <tbody> <tr> <td>Are the backup procedures documented?</td> <td></td> <td></td> </tr> <tr> <td>Are the backup logs maintained?</td> <td></td> <td></td> </tr> <tr> <td>Have the backups been verified and tested?</td> <td></td> <td></td> </tr> <tr> <td>Are the backup media stored safely in line with the risk involved?</td> <td></td> <td></td> </tr> <tr> <td>Are there any recovery procedures and have the same been tested?</td> <td></td> <td></td> </tr> <tr> <td>Are the back up of Registries maintained ?</td> <td></td> <td></td> </tr> <tr> <td>Are separate reports for IML/Internet Trading maintained?</td> <td></td> <td></td> </tr> </tbody> </table>		Yes	No	Are the backup procedures documented?			Are the backup logs maintained?			Have the backups been verified and tested?			Are the backup media stored safely in line with the risk involved?			Are there any recovery procedures and have the same been tested?			Are the back up of Registries maintained ?			Are separate reports for IML/Internet Trading maintained?				
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<p>Network Related:</p>																										

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<ul style="list-style-type: none"> • Verify location(s) of nodes in the network. • Verify number of nodes in diagram with actuals. • Date of submission to BSE. 																				
<p>Physical Security:</p> <table border="1"> <thead> <tr> <th data-bbox="396 541 740 604"></th> <th data-bbox="740 541 812 604">Yes</th> <th data-bbox="812 541 873 604">No</th> </tr> </thead> <tbody> <tr> <td data-bbox="396 604 740 667">For Hardware</td> <td data-bbox="740 604 812 667"></td> <td data-bbox="812 604 873 667"></td> </tr> <tr> <td data-bbox="396 667 740 730">For Software</td> <td data-bbox="740 667 812 730"></td> <td data-bbox="812 667 873 730"></td> </tr> <tr> <td data-bbox="396 730 740 793">For systems</td> <td data-bbox="740 730 812 793"></td> <td data-bbox="812 730 873 793"></td> </tr> <tr> <td data-bbox="396 793 740 888">Control on the admission of personnel into the location</td> <td data-bbox="740 793 812 888"></td> <td data-bbox="812 793 873 888"></td> </tr> <tr> <td data-bbox="396 888 740 982">Audit trails of all the entries-exits at location</td> <td data-bbox="740 888 812 982"></td> <td data-bbox="812 888 873 982"></td> </tr> </tbody> </table>		Yes	No	For Hardware			For Software			For systems			Control on the admission of personnel into the location			Audit trails of all the entries-exits at location				
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Important BSE Circulars

Automatic expiry of the password on expiry of 14 calendar days.				
System controls to ensure that the password is alphanumeric (preferably with one special character), instead of just being alphabets or just numerical.				
System controls to ensure that the changed password cannot be the same as of the last 8 passwords.				
System controls to ensure that the Login id of the user and the password should not be the same.				
System controls to ensure that the Password should be of minimum six characters and not more than twelve characters.				
System controls to ensure that the Password is encrypted at member end so that employees of the member cannot view the same at any point of time.				
Internet Trading users should have the facility to enter a transaction level password in order to enable the users to enter transactions.				
All successful and failed login				

Systems Audit of Stock Brokers CTCL

attempts should be logged with details like IP address, MAC address and other data to enable traceability.				
--	--	--	--	--

Order Entry		
	Yes	No
Only duly authorized client's orders are allowed to be placed.		
Order entry for Pro types of orders is executed through specific user ids.		
Orders that are within the parameters specified by the risk management systems are allowed to be placed.		
If the system is enabled for Internet trading the system has an internal unique order numbering system.		
The system does not have an order matching system and all orders are passed on to the Exchange trading system for matching.		
Order should be routed to the Exchange on the basis of priority of receipt of the orders from the clients.		
Order should not be generated automatically by the system in any way beyond the scope of regulatory framework.		
Installation		
IML Version		
IML version /IML Trading Software Version		
Risk Administration / Manager Version		
Front End / Order Placement Version		
Number of Users Logged In / hooked on to the network incl. privileges of each		
Number of Authorized Users		
Activity logs		
Systems logs		
User Management:		

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No. of user Ids created.	
All users are uniquely identified through the issue of unique IML ids.	
No. of Users are deleted and logs are maintained (Y/N).	
No. of Users are disabled and logs are maintained (Y/N).	
No. of users reissued and logs are maintained (Y/N).	
No. of users whose accounts are locked with logs.	
The users in the system are created by authorized personnel at server level (Y/N).	
The password change is communicated through secure means at server level (Y/N).	
Policies or Procedures regarding Business Continuity/Disaster Recovery:	
	Yes No
Any documentation on Business Continuity / Disaster Recovery / Incident Response	
BCP / DRP plan exist	
BCP/DRP plan have been tested (If available)	
Incident response procedures available	
Risk assessments procedures available	
Call List for emergencies maintained	

Network / Communication Link Backup				
	Yes	No		
Backup network link is available in case of failure of the primary link to the BSE.				
Backup network link is available in case of failure of the primary link connecting the IML users.				
Alternate communications path between customers and the firm. Please specify:				
Alternate communications path between employees and the firm. Please specify:				
Alternate communications path with critical business constituents, banks and regulators. Please specify:				
Approvals, Undertaking, Agreements, Policies:				
	Yes	No		
Undertaking provided regarding the IML system as per relevant circulars.				
Application of approval for Internet Trading.				
Approval letter from the Exchange for Internet trading.				

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Details of the IML ID's used by the trading members:

Clearing No: _____

IML ID	Software used	Purpose of procurement	IML Location (Address)	Date of activation.

1.	Whether the required details of all the Ids created in the IML server of the trading member, for any purpose (viz. administration, branch administration, surveillance, risk management, trading, testing, etc) and any changes therein, have been uploaded to the Exchange? If no, please give details.	YES/NO
2.	Whether all the IML user ids created in the IML server of the trading member has been mapped to 16 digits LOCATION ID on one-to-one basis and a record of the same is maintained?	YES/NO

Annexure- B

Areas of Audit			Findings & Observations	Auditors Remarks
Features of the system:				
	Yes	No		
Price Broadcast.				
Allows order Entry and confirmations.				
Allows order modification and cancellation.				
System enables Trades confirmations.				
Allow for checking the pending orders i.e. the orders that have not yet traded or partially traded.				
Provides feature of reporting the trades happened.				
Allows for the reporting of client wise / user wise margin requirements as well as payment and delivery obligations.				

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<p>Gateway Parameters</p> <ul style="list-style-type: none"> ◆ Trader ID <p>Cash Segment</p> <ul style="list-style-type: none"> ◆ IML ID ◆ IP Address ◆ (BSE Network) ◆ VSAT ID ◆ Leased Line ID <p>F&O Segment</p> <ul style="list-style-type: none"> ◆ DIML ID ◆ IP Address ◆ (BSE Network) ◆ VSAT ID ◆ Leased Line ID 																				
<p>Policies and Procedure documentation availability:.</p> <table border="1" data-bbox="380 1199 927 1612"> <thead> <tr> <th></th> <th>Yes</th> <th>No</th> </tr> </thead> <tbody> <tr> <td>Information Security Policy</td> <td></td> <td></td> </tr> <tr> <td>Password Policy</td> <td></td> <td></td> </tr> <tr> <td>User Management and Access Control Policy</td> <td></td> <td></td> </tr> <tr> <td>Network Security Policy</td> <td></td> <td></td> </tr> <tr> <td>Application Software Policy</td> <td></td> <td></td> </tr> </tbody> </table>		Yes	No	Information Security Policy			Password Policy			User Management and Access Control Policy			Network Security Policy			Application Software Policy				
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Application Software Policy																				

Backup Policy		
Change Management Policy		
BCP and Response Management Policy		
Audit Trail Policy		
Planned Changes:		
	Yes	No
Changes to the installed IML system made in a planned manner.		
Changes are made by duly authorized personnel.		
Risk involved in the implementation of the changes duly factored in.		
The implemented change duly approved and process documented.		
The change request process documented.		
Change implementation process supervised to ensure system integrity and continuity.		
User acceptance of the change documented.		
Unplanned changes duly authorized and the manner of change documented later.		
SDLC documentation and		

Systems Audit of Stock Brokers CTCL

procedures if the installed IML system is developed in-house.				
System Failure Backup				
	Yes	No		
Backups for the critical system components				
Gateway / Database Server				
IML router				
Network Switch				
Infrastructure breakdown backup				
Electricity				
Water				
Air Conditioning				
Alternate physical location of employees been made in case of non availability of the primary site?				
Provisions for Books and records backup and recovery (hard copy and electronic).				
Mission-critical systems been identified and provision for backup for such systems been made?				

Days Activities :				
	Yes	No		
Provision for Begin of day activity				
Audit Trails				
Access Logs				
Transaction Logs				
Backup Logs				
Alert Logs				
Activity Logs				
Misc (Please specify):				
Provision for End of day activity				
Details of the various response procedures available:				
	Yes	No		
Access Control failure				
Day Begin failure				
Day End failure				
Other system Processes failure				

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Other Areas :				
	Yes	No		
Firewall implemented.				
Malicious code protection system implemented.				
Definition files up-to-date.				
Instances of infection				
Last date of virus check of entire system				

Summary Sheet

Annexure C

INFORMATION SYSTEM AUDIT OF _____

Sr No	Area of Audit	Classification of Controls in Annexure A S / A / I	Classification of Controls in Annexure B S / A / I	Report Reference
1	Access controls are exercised and adequate.			
2	Adequate measures are taken to protect the confidentiality of session.		NA	
3	Is the database security in respect of IML operations commensurate to the size and nature of application?		NA	
4	Online Risk Management relating to orders are observed and adequate.		NA	
5	Backup procedures followed are commensurate with size and procedures are properly documented.		NA	
6	Password policy is documented and followed.		NA	
7	Proper controls in respect of Order Entry are followed.		NA	

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8	Policies related to IML version controls documented and followed.		NA	
9	User Management Norms are defined and have been observed.		NA	
10	Policies and Procedures regarding Business continuity / Disaster Recovery documented and are followed.		NA	
11	Is adequate backup link available in case of Network / Communication failure?		NA	
12	Required System features and Parameters are defined and observed by Member Broker.	NA		
13	Changes to the installed IML system are made in a planned manner and documented.	NA		
14	Back up for the critical system components followed is commensurate with size and procedures are properly documented.	NA		
15	All security features such as firewalls and Virus protection documented, followed and updated regularly.	NA		

Important BSE Circulars

16	Any other area/aspect which in the auditor's opinion is not observed with and which is significant and material in relation to the size and the nature of the operations.	NA	NA	
----	---	----	----	--

Sign Of Auditor:

Date:

Systems Audit of Stock Brokers CTCL

Criteria for Evaluation of Controls

Evaluation of Controls	Description
Strong	Controls are said to be Strong if objectives are fully complied with and no material weaknesses are found.
Adequate	Controls are said to be Adequate if objectives are substantially complied with and no material weakness results in substantial risk exposure due to non-compliance.
Inadequate	Controls are said to be Inadequate if objectives are not complied with.

Notice no : 20080627-16

Notice date Friday, June 27, 2008
:

Subject : System Audit Requirements & Submission of System Audit Report, Network Diagram & SSL certificate.

Segment Name Equity

Contents

Attention of the Trading Members is drawn to Exchange Notice no.20080513-3 dated May 13, 2008 wherein the Trading Members who have availed of IML (Intermediate Message Layer) facility are required to submit the System Audit Report, Network Diagram and SSL (Secured Socket Layer) certificate for the financial year ended March 31, 2008 till July 31, 2008.

Trading members are once again reminded that:

1. Non-submission of System Audit Report by July 31, 2008 would attract a penalty of Rs. 100/- per day from August 1, 2008 onwards till the date of submission of the same.
2. Non-submission of the Network Diagram and/or SSL (Secured Socket Layer) certificate by July 31, 2008 would attract a penalty of Rs. 100/- per day from August 1, 2008 onwards till the date of submission of the same.

The System Audit Report is required to be submitted in same format as prescribed in the Notice No: 20070517-26 dated May 17, 2007. In view of the same, Trading Members are required to comply with the above requirements latest by July 31, 2008.

In case of any further clarification the Trading Members may contact the following Officials of the Exchange on telephone no. 22721233/34.

Systems Audit of Stock Brokers CTCL

Sr. No.	Name of Official	Department	Extension No.
1.	Ms. Jyoti Thukral	DOSS	8214
2.	Mr. Ashwin Dattani	DOSS	8157

Yogesh Bambardekar

Manager

Surveillance & Supervision

Jyoti Thukral

Deputy Manager

Surveillance & Supervision

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II: With respect to the time period for the audit. It depends on the set up size at the member's of the stock exchange. Number of id's at the different locations. On an average basis it can be said that the audit period would take 3-5 days for each location required to be audited.

III: It is required to be understood that the terminology used by NSE is CTCL and by BSE is IML. But conceptually the prospective for both is to audit CTCL (Computer to Computer Link) facility used by the member broker.