

PN-ACB-445

95472

**Organizational Structure Plan for
National Securities Depository Limited**

**Financial Institutions Reform and
Expansion (FIRE) Project**

July 1996

**Financial Institutions Reform and Expansion (FIRE) Project
US Agency for International Development (USAID/India)
Contract #386-0531-C-00-5010-00
Project #386-0531-3-30069**

**Price Waterhouse LLP
1616 North Fort Myer Drive
Arlington, VA 22209
Tel. (703) 741-1000
Fax (703) 741-1616**

Price Waterhouse LLP



July 20, 1996

Mr. C. B. Bhave
Managing Director,
National Securities Depository Limited
Mahindra Towers, 1st floor
Worli
Mumbai 400 025.

Dear Mr. Bhave,

Re: Organizational Structure Plan for the NSDL

At your request and as a part of our contract with the US AID, Ms. Sue Hertel, Vice President of Operations at the Midwest Depository in the US and a consultant to Price Waterhouse Capital Markets, has completed the first part of our activity towards assisting the NSDL organizational setup.

Purpose of Activity

The purpose of this activity was to study the proposed functions of the National Securities Depository Limited (NSDL) and develop recommendations on an efficient organizational structure for the new organization.

Approach to Work

a. Background Study

For an understanding of the functions of the depository in the Indian environment, previous reports produced by various Price Waterhouse consultants on the development of a depository in India were reviewed. The Ordinance on Depositories and the SEBI Consultative paper and regulations for depositories were also reviewed. The response to the NSDL's "Request for Proposal" as submitted by Tata Consultancy Services, the software vendor selected by NSE for NSDL, was also reviewed.

July 20, 1996

Mr. C. B. Bhawe
Page 2



b. Recommendations on Organizational Structure

The report on recommendations for the organizational structure for the NSDL has been developed on the basis of the above study and discussions with the decision makers for the NSDL. This report includes a written narrative on the functions of the various departments and sub-departments, management structure, staffing requirements and significant issues which need to be considered while implementing the proposed structure. Proposed organizational charts are also presented with the report. A job description outline and sample job description have also been presented to assist NSDL in the next steps that need to be taken in identifying functions and skills needed for the general staff. Based on assumptions about the levels of activity and numbers of participants, expected number of people to be hired in various positions have also been provided to the NSDL to assist in meeting the staffing needs..

c. Workshop for NSDL

A two hour workshop was conducted for the management of the National Stock Exchange who are implementing the NSDL and the existing NSDL team. In the workshop first, an overview of the typical structure of a depository was given. This was then related to the functionalities and responsibilities of the depository in the Indian context and then the proposed organizational structure for the NSDL was discussed.

Findings and Recommendations

With the expectations of the market from the depository being extremely high the depository needs to set high standards of customer service and efficiency in operations and only an optimal organizational structure can ensure that. Therefore, the departmental structure of the NSDL should be based on the core services as proposed for the depository.

a. Departmental Structure

A group of six main departments would provide the necessary support to insure that all processes function accurately and on a timely basis. These main departments would be the following: Operations Department; Information Technology; Marketing Department; Compliance Department; Internal Audit; and Support Services.

With the exception of Internal Audit, the departments would be further subdivided into specific areas of focus. The Internal Audit Department would be charged with the oversight of operations, insuring that internal policies and procedures are followed and

July 20, 1996



Mr. C. B. Bhawe
Page 3

that industry standards are met. Internal Audit would report directly to the Managing Director, and at times directly to the Board of Directors. This will insure that any serious audit exceptions are reported to the most senior levels of management and fulfills requirements of outside auditors and regulators.

b. Management Structure

The management structure should follow the pyramid philosophy, increasing from the top down. This is the typical structure used by depositories, and facilitates the necessary division of duties and double checks on the system, from both the business and technical perspectives.

c. Staffing Considerations

Initially, a large management staff may not be financially feasible or operationally efficient. Recommendations have been made on available alternatives such as hiring at more junior management levels and assigning multiple departments to one department head. If alternatives are used, though, it is critical that the main department heads report to the Deputy Managing Director level; or in the case of Internal Audit, the Managing Director. This reporting structure is necessary to insure that the most senior levels of management are in touch with all activity and problems that may be encountered in the initial development of the depository, as well as on an ongoing basis.

To determine departmental staffing needs, functions need to be clearly defined and job positions developed. At the same time, the number of people in each position needs to be determined. This is normally based on actual work volumes and production standards. As these are still unknown factors, staffing estimates have been provided based on certain initial volumes as projected by NSDL and experience with similar depository functions in a U. S. depository.

It is essential that senior management continually monitors all of the above areas. As the depository is implemented and developed, adjustments will need to be made to departments, staffing size, and management levels. Areas of focus may change as the approach to services changes and/or new products are added by NSDL to service the securities industry further. Therefore, close and continuous monitoring is required so that depository processing problems are contained at the outset.

d. Action steps

It is extremely important that the NSDL immediately begin to develop their

July 20, 1996

Mr. C. B. Bhavé

Page 4



management team. This would include individuals assigned to head main departments based on core services and the subdivisions of those departments. The management team is needed to work on the next critical steps of creating the organizational structure for the depository. These include position identification and job descriptions, interviewing candidates and making hiring decisions, developing and writing formal procedures, and training staff in their responsibilities. The management team will be responsible for the success of the NSDL, and, therefore, should be involved in the earliest stages of these tasks. To insure a qualified management team is assembled, the NSDL must look for experienced people. If enough depth of experience cannot be found internally among the NSDL team, then recruiting from the outside needs to begin immediately. Potential management personnel may be found in the related securities and banking industries.

Next Steps

Ms. Susan Hertel shall be back in India in August, 1996. The purpose of her next visit will be to follow up on the recommendations made to the NSDL and to further assist NSDL in the identification of the organizational work flows and communication flows. Once that is established, and in conjunction with the recommendations on organizational structure, the necessary functional positions can be established within departments. Assistance will then be provided in the preparation of individual job descriptions for those positions.

For the success of this project the participation and cooperation of your management and staff is essential. We would like to thank you and your colleagues at NSDL and NSE for the time, courtesy and cooperation extended to us during the course of this project.

Please get in touch with us at the FIRE project for any clarifications you may require.

Thanking you,

Yours sincerely,

W. Dennis Grubb
Principal Consultant

5

***Organizational Structure Plan
for
National Securities Depository Limited***

***Price Waterhouse LLP
Mumbai
July 1996***

TABLE OF CONTENTS

I.	Executive Summary	1
II.	Background	3
	A. Scope of Work	3
	B. Assumptions	3
III.	Departmental Structure	6
IV.	Management Structure.	17
V.	Recruiting and Staffing Considerations.	20
VI.	Additional Considerations	28
VII.	Summary	30
VIII.	Next Steps	33

Appendices

- A. Materials reviewed
- B. Individuals interviewed
- C. Organizational Charts
- D. Job Descriptions - "format and sample"
- E. List of Workshop participants
- F. Material presented in the Workshop

I. EXECUTIVE SUMMARY

The following report addresses the proposed organizational structure plan for the National Securities Depository Limited (NSDL) of India. Recommendations have been made on departments needed, management structure, and staffing requirements.

The departmental structure of the NSDL should be based on the core services as proposed for the depository. A group of six main departments would provide the necessary support to insure that all processes function accurately and on a timely basis. These main departments would be the following.

- ▶ Operations Department
- ▶ Information Technology
- ▶ Marketing Department
- ▶ Compliance Department
- ▶ Internal Audit
- ▶ Support Services

With the exception of Internal Audit, the departments would be further subdivided into specific areas of focus. The Internal Audit Department would be charged with the oversight of operations, insuring that internal policies and procedures are followed and that industry standards are met. Internal Audit would report directly to the Managing Director, and at times directly to the Board of Directors. This will insure that any serious audit exceptions are reported to the most senior levels of management and fulfills requirements of outside auditors and regulators.

The management structure recommended would follow the pyramid philosophy, increasing from the top down. This is the typical structure used by depositories, and facilitates the necessary division of duties and double checks on the system, from both the business and technical perspectives. Initially, a large management staff may not be financially feasible or operationally efficient. Recommendations have been made on available alternatives such as hiring at more junior management levels and assigning multiple departments to one department head. If alternatives are used, though, it is critical that the main department heads report to the Deputy Managing Director level; or in the case of Internal Audit, the Managing Director. This reporting structure is necessary to insure that the most senior levels of management are in touch with all activity and problems that may be encountered in the initial development of the depository, as well as on an ongoing basis.

To determine departmental staffing needs, functions need to be clearly defined and job positions developed. A job description format and sample job description have been provided to assist NSDL in this process. At the same time, the number of people in each position needs to be

determined. This is normally based on actual work volumes and production standards. As these are still unknown factors, staffing estimates have been provided based on certain initial volumes as projected by NSDL and experience with similar depository functions in a U. S. depository.

Management needs to continually monitor all of the above areas. As the depository is implemented and developed, adjustments will need to be made to departments, staffing size, and management levels. Areas of focus may change as the approach to services changes and/or new products are added by NSDL to service the securities industry further. If such close monitoring is not done, depository processing problems that develop could become out of control quickly.

Finally, a list of next steps is provided, encompassing the following areas:

- ▶ Identification of inter-departmental communication and work flows.
- ▶ Identification of specific functions and job positions followed by the preparation of individual job descriptions for each position.
- ▶ Recruiting, interviewing, and hiring for each position.
- ▶ Writing procedures, both internal and external.
- ▶ Training, internal and external.
- ▶ Establishing work standards and developing management tools.

Critical to the above processes is the immediate establishment of a strong management team by NSDL. Such a team will insure a smooth implementation of the depository system and that the depository continually meets all expectations of the financial community, investing public, and regulators.

II. BACKGROUND

A. Scope of Work

The scope of this Consultancy was focused on the development of the organizational structure of the National Securities Depository Limited (NSDL) of India. The desired deliverables were:

- ▶ Recommendations on the internal departments needed to operate the depository.
- ▶ A related organizational chart, including proposed management levels.
- ▶ Estimates on staff size for each department.

To provide a basis for the above, reports on the proposal for a national depository in India and recommendations for the development of same were reviewed for background information. The response to the Request for Proposal as prepared by Tata Consultancy Services, the selected software vendor, was also considered. SEBI regulations as published in May, 1996, were also consulted and addressed in the recommendations.

Members of the NSE staff slated to work for the depository were interviewed. Their concerns and expectations were considered in developing the recommendations for organizational structure for NSDL.

The extensive experience of the consultant in working in the national depository system in the U.S. was also applied.

Preliminary recommendations were then reviewed with NSE and NSDL management through general discussion and a workshop. Recommendations were finalized based on findings under this process. Appropriate notations are made in those areas of the recommendations.

Lists of the documents reviewed and the people interviewed are attached as Appendices A and B. Workshop attendees and the materials presented can be found in Appendices E and F respectively.

B. Assumptions

As a result of the above work, the following assumptions were developed:

- i. NSDL will be a standalone organization. It will not be established under the umbrella of the NSE. Therefore, no support departments will be shared with the NSE. All such

departments will be created separately for NSDL as needed.

- ii. Services will be provided by NSDL in phases. These phases are expected to quickly follow each other. Therefore, no provision is made for delayed implementation of any services.
- iii. Services to be provided by the NSDL are:
 - ▶ Recording of depository participant positions in the dematerialization of securities.
 - ▶ Recording of the rematerialization of securities by participants.
 - ▶ Recording of the effect of corporate actions on participants positions.
 - ▶ Delivery of securities under participants' instructions to the Clearing Corporation for the settlement of trades.
 - ▶ Receipt of securities under participants' instructions from the Clearing Corporation for the settlement of trades.
 - ▶ Providing participant position data and beneficial owner details to registrars to support corporate actions.
 - ▶ Periodic reconciliation of securities positions held at the depository with registrars and participants.
 - ▶ Training of participants and registrars in the NSDL system.
 - ▶ Sale of NSDL services.
 - ▶ Providing system specifications to participants, allowing them to interface in-house systems with the depository system.
 - ▶ Risk reduction.
 - ▶ Pledge/hypothecation of securities by participants.
 - ▶ Securities lending.

-
- iv. Certain services that are commonly provided by a depository are not included in the proposed NSDL design. Examples are the physical securities processing and cash distributions related to corporate actions, direct transfer of securities (or dematerialization) with the registrar, and money settlement.
 - v. There will be no processing of physical securities.
 - vi. All input will normally be performed by participants, registrars, and clearing corporations through dedicated terminals or file transfers via computer-to-computer interfaces. NSDL staff will assist with input only on an exception or emergency basis.
 - vii. The system will be available "around the clock" to accommodate those participants that wish to perform back-office work after normal business hours. Exceptions during a 24-hour period include system down time for scheduled database maintenance, systems back-ups, etc.
 - viii. Management levels and department structure at NSDL may not necessarily be consistent in all cases with those established at the NSE.
 - ix. In compliance with proposed regulations as published by SEBI, core depository functions will not be outsourced. Some exceptions outside of these core service functions may be major software needs, security guards, payroll, legal work, and procedure writing.

III. DEPARTMENTAL STRUCTURE

Based on the anticipated services that will be initially provided by NSDL, the establishment of the following main departments is recommended:

- Operations Department
- Information Technology Department
- Marketing Department
- Compliance Department
- Internal Audit
- Support Services

Each of the above departments should be further subdivided into areas of more specific responsibilities as described below. In making these subdivisions, related functions, interactions between areas, the need for checks and balances, and sensitivity of information flows were considered.

The following narrative discusses what areas should be established. While reference may be made to them as "departments," it is only to delineate functional responsibilities. Initially, staffing may be minimal for specific areas limiting the need for separation by management. This is discussed further under "Management Structure."

OPERATIONS DEPARTMENT

The Operations Department would be concerned with the day-to-day service functions of the depository. Areas of responsibility would center on insuring that processing flows operate smoothly and assisting with resolving problems as they arise. To meet these responsibilities, the Operations Department would be subdivided as follows:

Registrar Interface

The focus of the Registrar Interface department would be the day-to-day operations and interactions with the registrars. Such interactions would include:

- Resolution of discrepancies found through the automated reconciliation process. Such resolutions need to be done quickly to insure the proper recording of participant positions that support delivery against settled trades and corporate actions.
- Liaison between the registrar and the depository's Information Technology Department.

- Response to paper-based notifications of pending corporate actions, and the impact of same on depository positions as received from the registrars. This includes insuring that participant and beneficial owner details are received by the registrars by the deadline.
- Training of registrars.

The Registrar Interface department will be an extremely critical area. Registrars will be dealing with two new concepts: a securities depository and the mass dematerialization of securities. Support from NSDL will be exceedingly important to insure a smooth transition through building acceptance and cooperation among the registrars. A high amount of information will be flowing between the depository and the registrars that will directly impact participant positions. To maintain the integrity of the system and confidence of the industry, processing must be highly accurate. The Registrar Interface department needs to be established to insure this occurs.

Clearing Corporation Interface

The primary functions of the Clearing Corporation Interface department would be similar to those of the Registrar Interface department, but with a focus on interactions between the Clearing Corporation and NSDL. Primarily, the Clearing Corporation Interface would facilitate the resolution of problems arising out of day-to-day operations, and act as liaison between the Clearing Corporation and the Information Technology Department at NSDL.

All input to the NSDL and Clearing Corporation systems is expected to be done via automated file transfers, and limited to instructions on the delivery and receipt of securities in the settlement of trades. Therefore, there should be minimal intervention needed. It is recommended, though, that a specific contact for the Clearing Corporation be established at NSDL within the Operations Department to insure that problems and exceptions are addressed on a timely basis. Because of this limited need, this function could be possibly be assigned initially to a Registrar Representative. This is discussed further under "Recruiting and Staffing Considerations."

Participant Interface

Similar to the other user interfaces, the highly important function of assistance to depository participants in day-to-day operations would be provided by Participant Interface. Staff in this area would be responsible for tracking all participant problems and their subsequent resolution. Each participant should be assigned a Participant Interface Representative from the area. This provides participants with the security of having a specific contact at the depository that they know they can rely on to answer any question and assist with any type of problem that might arise.

14

It should be noted that this area is frequently found under the Marketing Department in a securities depository environment. An adjustment has been made here to reflect input from NSE and NSDL management. The logic behind placing this area in the Marketing group is that the Participant Interface department is key to supporting the entire participant/depository relationship. (This function complements the Sales Department.) However, due to the similarity of functions to the other Interface Department areas, it was felt that placing the Participant Interface group in the Operations Department was more appropriate for NSDL.

Close interactions will be required of all of the NSDL user support staff during implementation. Therefore, initially placing the Participant Interface area within the Operations Department may help to insure that any overlap of operational problems between the users is commonly addressed by all depository representatives. If it is found later that interactions of the Participant Interface area and the groups within the Marketing Department have become extensive, consideration should be given to changing this initial structure.

Security Masterfile

Because of the dependency of the functional and system operations on the accuracy of the security masterfile, the responsibility of this database maintenance should reside with the overall Operation Department. Due to this function's relationship to the technical operation and the desire for limited system access, Security Masterfile has been placed with the System Operations Department. This is discussed further below.

The specific responsibilities would be:

- Maintaining system data on eligible securities.
- Insuring that securities meet the eligibility requirements of the depository.
- Insuring agreements on depository eligibility of securities are in place with both registrars and issuers.
- Processing periodic eligibility comparisons with the clearing corporation(s).
- Processing deletions due to corporate actions and/or the failure of a security to continue to meet eligibility requirements at the depository.
- Publishing statistical reports and documents related to eligible securities.

This will be another critical area of the depository as the overall system operation is dependant

15

on a complete and accurate security masterfile.

It should be noted that the NSE and NSDL management felt that the maintenance of the security masterfile should be part of Computer Operations department. Concerns about system access contributed to this belief. However, Price Waterhouse continues to strongly recommend that the security masterfile department remain with business operations. Coordination of development of the security masterfile database with business objectives is key to the success of the depository. The data input facet of Security Masterfile, while also extremely, is secondary to the business activity that surrounds this department.

INFORMATION TECHNOLOGY DEPARTMENT

Establishing the Information Technology Department as a standalone group creates a division between technical and business personnel. While each area must be sensitive to the other, experience indicates that this division keeps the two unique functions well organized. This type of separation of duties is typical of U.S. and other foreign depositories. (In discussions with representatives of securities exchanges, depositories, and clearing corporations of other countries as they visited the U.S., this was always the case.)

As a separate department, the Information Technology department responsibilities should be subdivided into the following areas:

Communications

The Communications area would be responsible for establishing the most cost-effective system communication network possible. This includes the telecommunications network and dealing with the Indian environment in this area. Staff would be charged with managing the network efficiently and insuring that the reliability and up time standards of operations are achieved. The Communications area would also be entrusted to secure the system from unauthorized access via the communications system. System interface specifications for users would be provided by this area, as well as minor software changes.

Within the Communications group would be the Troubleshooting/Help Desk. This area would be responsible for assisting both internal and external parties in the resolution of problems related to the systems operations. The staff here must be able to respond quickly and accurately to the users of the system. Such support to users will be extremely critical. This is true not only for the start-up phase, but also on an ongoing basis. Immediate attention to any type of problem within the depository system, software or hardware, is critical to its success. Extremely important as well will be the communication of the status of problem resolutions to the users of the depository.

Computer Operations

This area would be responsible for the daily operation of the hardware and running of the system jobs in accordance with systems performance standards (response times, service quality, reliability). To accomplish this objective would mean that the area would be responsible for maintaining the operating environment, including hardware and software infrastructures. The work would encompass mainframe computers, as well as user terminals.

Scheduling of system jobs would be performed in this area. This would be facilitated through the use of a scheduling package as provided by the software vendor.

Inherent in the above are the following additional responsibilities of the Computer Operations area:

- Maintaining a library of data in various forms of media, as well as backup files held offsite.
- Coordinating with the disaster recovery manager for the implementation of business continuation policies as they relate to computer operations.
- Coordinating with other technical and marketing teams for the delivery of the full NSDL services.
- Performing acceptance tests for the final clearance of system programs prior to the installation of production versions.
- Insuring system security as it relates to the daily system operation.

Staffing would be required around the clock to accommodate access by users after normal business hours.

It should be noted that the NSE and NSDL management felt that the Computer Operations should be placed within the Operations Department of the NSDL. Their experience caused them to feel that this would be more reflective of the usual organizational structures of India. However, Price Waterhouse feels strongly that the Computer Operations group should be part of the Information Technology department. The computer system chosen for the NSDL requires a mainframe computer operation. Such a system demands a different structure than a Local Area Network (LAN) or a mid range computing environment frequently used in India. Skill levels required for the system operating staff are different for a mainframe computer. The staff of the Computer Operations department will primarily interface with the areas of Information

Technology department, rather than the business areas. It is extremely important that all the groups related to the technical operations report to the same senior management so that communication and work flows are properly coordinated.

Disaster Recovery

This group would participate in the development of system disaster recovery policies in accordance with the overall risk containment policies of the NSDL. The Disaster Recovery area would then design and implement disaster recovery, restart and backup procedures under the policies. Implementing the solutions to disaster recovery would follow, including a backup secured computer center, and a data archive system. This area would also act as the liaison for disaster recovery between the full Information Technology Department team and all other business managers.

MARKETING DEPARTMENT

Initial contact with prospective participants is done through the Marketing Department. The coordination of the necessary paperwork to establish a participant account and training of the new participant can smoothly be accomplished if done within this group. To insure the efficient setup of accounts, it is recommended that the Marketing Department be structured as follows:

Sales

This area would be responsible for the identification of prospective participants and selling the depository services to same. The addition of other clearing corporations would also be supported by the Sales group. Besides soliciting new business, staff members would remain in contact with active customers through periodic meetings to insure that the depository is fulfilling all expectations. Later, the desire for new services from the depository by the customer base will be initially identified through such contacts.

The Sales staff is key to creating and maintaining a strong working relationship between the depository and its customers.

Training Department

Complementary to Sales will be the training of participants on how to use the depository system. This support will be most necessary to participants in the early stages of the depository. The need for training will continue as participants are added, services are increased, and system changes are made.

Responsibilities of the Training Department might also be expanded to include internal users, registrars, and clearing corporations. Such an expansion would complement and support work done by the Operations Department.

The Training Department will be critical to creating a general awareness of the benefits of a depository as well as teaching use of the system.

Membership Department

This area would be responsible for the administrative functions needed to establish a membership with the depository. It is typical for this group to reside with Sales because of the close interactions in setting up a participant and ongoing maintenance of the participant profile database. Normal functions include:

- Reviewing application forms for completeness. This review would include insuring that the applicant meets initial requirements for participation as established by the depository, and all information needed by the Surveillance Department to provide final approval is included.
- Processing contracts and other paperwork related to establishing a new participant.
- Maintaining the database of participant profiles.
- Publishing statistical reports and documents related to eligible participants.

COMPLIANCE DEPARTMENT

The Compliance Department is responsible for the general integrity of the depository. It is charged with ensuring that all users strictly adhere to depository rules and industry regulations. Extremely sensitive material concerning the financial condition and operating practices of participants, registrars, clearing corporations, and the status of securities passes through this area. Because of this, it is required that the Compliance Department be separate with separate management. Further, following this policy adds a comfort level for outside regulators.

The subdivisions for this department should be:

Surveillance Department

The responsibilities of this area would include:

- Reviewing applications as processed by the Membership Department to the depository for participant membership to insure that the applicant meets financial, operational, and regulatory requirements as established by the depository and industry regulators. This function provides a double-check on the work performed by all areas of the Marketing Department. Final approval of the participant application would come from the Surveillance Department.
- Ongoing monitoring of the financial conditions and operational practices of participants to insure continued compliance with depository rules and industry regulations. This would include reviewing periodic financial statements and regular examinations of participant in-house records.
- Ongoing monitoring of the depository system activity to insure compliance with established procedures and regulations.
- Working with industry regulators to investigate financial or operational problems of a participant to which the regulators have been alerted.
- Communicating to depository senior management, regulatory authorities, and other appropriate parties any serious and unusual violations of depository procedures and/or regulations, and any unusual financial or operational activity within a participant's operations.
- Taking appropriate actions against a problem participant within the scope of responsibility of the Compliance Department as set by senior management of the depository.
- Making recommendations to senior management on actions to be taken against a participant that are outside the scope of responsibilities of the Compliance Department.
- Monitoring positions held in problem securities to insure the financial condition of a participant is not negatively affected through the amount of shares held in a proprietary position.
- System activation and deactivation of participant accounts and de-listing eligible securities for cause.
- Ensuring that any Participant Fund requirements established by the depository are met by participants on an ongoing basis. This would include calculating and insuring collection of any supplemental contributions needed to cover temporary and/or unusual risk that

would be in excess of basic deposits.

All of the above work of the Surveillance Department adds to the integrity of the depository. Many of these steps are also in compliance with the depositories and participants regulations as published by SEBI in May, 1996.

Risk Management Department

The risk management department would be responsible for limiting the exposure of the depository to participant failure. This would be accomplished through contributions to a Participant Fund as established by the rules and procedures of the depository, through the acquisition of corporate insurance, or a combination of these two approaches. Staff in the area would perform research on the availability of outside insurance, make recommendations to management on risk reduction policies, and be charged with the administration of any participant or self-insurance funds collected to reduce risk to the depository.

The Risk Management Department, while focused on the liability of the depository, would also ultimately contribute to the protection of the beneficial owners against risk as required by SEBI regulations.

Legal Department

The Legal Department should reside with the Compliance Department because of its role in the development of depository rules and the critical need to insure regulatory compliance. This function is extremely important because of industry focus in this area.

It is the Legal Department that is charged with the maintenance of the corporate rules and bylaws. Therefore, they would also be responsible for the interpretation of regulations and depository rules as they relate to the NSDL itself, any actions taken against participants, or the eligibility of securities by the depository. The Legal Department would also participate in the arbitration of user disputes, help the Membership Department in insuring participant contracts are formatted and negotiated properly, and approve the language of any other corporate contracts (such as vendor related).

INTERNAL AUDIT

Internal Audit would be the department responsible for insuring internal compliance with depository procedures and policies, and industry standards for operation. This would be accomplished through a series of periodic reviews of the Operations, Information Technology, Marketing and Compliance departments, as well as Support Services where appropriate. Formal

procedures and published policies would be checked against actual operating practices. Auditors would also comment on procedures that need to be added. Breaks in procedures and other operational problems as identified by Internal Audit would be reported to senior management for appropriate actions. Serious infractions would be reported directly to the Board of Directors by Internal Audit.

Internal Audit would also assist outside auditors and regulators in their periodic reviews of the depository.

To insure proper division of duties, the Internal Audit department should report directly to the Managing Director for routine operations; and to the Board of Directors for serious infractions as previously noted. This is generally recommended by outside auditors to preclude a serious audit exception from not being reported to the Board of Directors. This reporting structure is also favorable to regulators.

SUPPORT SERVICES

Support Services would include such corporate departments as:

Human Resources

This department would be responsible for recruiting and screening based on skills and background versus requirements of open positions. Requirements of incumbents should be established through a series of job descriptions. (See "Recruiting and Staffing Considerations.")

Human Resources would also be responsible for the administration of employee benefits, assistance in the development of career paths, and arbitration of employee disputes.

Accounting Department

Financial records of the depository corporation would be maintained by the Accounting Department. The processing of payables and receivables would also be the responsibility of this area. This would include the processing of depository billing to participants and the collection of same. Banking functions related to any Participant Funds or insurance funds are also normally performed by this area.

Administrative Services

This area would be responsible for the purchasing of supplies and office equipment. It would also oversee space planning for the depository staff, furniture, and fixtures.

22

Distribution/Mail Department

This area would be responsible for the critical function of distributing hard copy reports to participants as necessary on a timely basis. This would mean having the reports sorted and available for local participant pickup and shipment to out-of-town locations.

The Distribution/Mail Department would also be responsible for the processing of routine incoming and outgoing mail for the depository.

Experience has shown that this area works well reporting to the Administrative Services management.

Corporate Security Department

The Corporate Security department would be responsible for the screening of depository staff members for security clearance as required for employment and access to depository facilities. Messengers from local participants should also be checked by Corporate Security before being granted routine access to the depository. Identification badges allowing access to the depository would be issued by Corporate Security.

A staff of security guards from an outside service would continue to be used at appropriate locations within the depository's physical facility. Such guards would report to this area.

IV. MANAGEMENT STRUCTURE

Typically, the management structure of a securities depository follows the pyramid philosophy of management, with the number of management positions increasing from the top down. The clerical staff is then of such a number as to provide a broad base under the management levels. Decision-making powers and amount of responsibility increase upward through the levels of the pyramid. (This structure also supports the mandatory division of duties within a depository.) Policy decisions are reserved for the most senior management.

Following the above philosophy, and considering senior management positions already established by NSE for the depository, the ultimate management structure for the NSDL from the top down would be as follows:

Board of Directors - As currently proposed for the NSDL.

Chairman - Reports to the Board of Directors as currently established.

Managing Director - Reports to the Chairman as currently established.

Deputy Managing Director - Reports to the Managing Director as currently established. In a pure pyramid structure, and, what is more important, to insure division of duties, there should be two Deputy Managing Directors at NSDL. One would be responsible for the depository functions; the other, oversight departments such as compliance and support functions. Typically, this is a requirement of auditors and regulators.

Main Department Heads - This level would report to the Deputy Managing Director, and have the broad management responsibilities of the six main departments previously identified as:

- Operations Department
- Information Technology Department
- Marketing Department
- Compliance Department
- Internal Audit
- Support Services

Traditionally in a depository, these positions carry the title of **Vice President**.

Sub-Department Heads - This level would report to the Main Department Heads and have more specific areas of responsibility as previously identified. In the purest pyramid form, this next level would carry the title of **Manager**.

Organization charts 1 through 3 reflect the above structure under the recommended main department and sub-departments.

It is recognized that NSDL will not have the luxury of a perfect management pyramid upon implementation of the depository. There are several reasons for this, including:

- ▶ Financial considerations - It simply would not be financially prudent to employ a large number of highly paid senior management people until participation volumes produce the revenue to support such a staff.
- ▶ Work volume/demands - Similar to financial considerations, the processing volumes of the depository, related functions, and staff added to support those functions must increase sufficiently to justify many managers.
- ▶ Time needed to identify necessary skills for all levels - Job descriptions and requirements still need to be developed for all levels, including both management and clerical. This process must be done before assigning individuals to specific positions. Not doing this, would spell disaster for the depository because of arbitrarily assigning people to jobs.
- ▶ Lack of qualified applicants - Whether looking internally or externally, individuals with the proper credentials and work history may not yet be available.
- ▶ Time to process qualified applicants - Once skill levels and requirements are identified for each position, they must be applied to a growing number of applicants.

Options available to NSDL to address the above are:

- ▶ Assign multiple main departments to management available at the Vice President level. Conflicts of interest and span of control must be considered under this option.
- ▶ Assign multiple subdepartments to management available at the Manager level. Similar to the above option, conflicts of interest and span of control must be considered.
- ▶ Hire at the Assistant Vice President level rather than as Vice President, and the Assistant Manager level rather than Manager. This will enable NSDL to hire quality candidates that may not quite have the requirements of the higher level, but have the potential to develop. Later promotion of such individuals would recognize this development and outstanding performance.

Where this option is used, the reporting structure should remain consistent with the

25

management pyramid. The Assistant Vice President would report to the Deputy Managing Director, and the Assistant Manager to either an Assistant Vice President or a Vice President. Not maintaining this chain of command could create conflicts of interests among departments.

- ▶ Further compress the management pyramid by assigning Managers to main departments, but still have those Managers report to the Deputy Managing Director.
- ▶ Temporarily spread support services among available management. Again, conflicts of interest must be considered if this option is used. For example, the Compliance Department is one area that requires a demarcation of management from others. Time demands placed on interim management must also be considered.

It is highly recommended that whatever title is used, the main department heads, except Internal Audit, should report to a Deputy Managing Director. Internal Audit should report to the Managing Director, and under unusual circumstances, directly to the Board of Directors. This will insure that the most senior levels of management are in touch with all activity and problems encountered in the initial development and ongoing processes of the depository.

Where any option is used, it should be considered temporary. Available management must continually monitor the development of the depository and make adjustments as necessary. Dramatic changes should be addressed immediately and even anticipated. Under the growth of the depository, work volumes can quickly get out of control.

V. RECRUITING AND STAFFING CONSIDERATIONS

The NSDL has begun to recruit potential employees for the depository. Job descriptions for each proposed position as describe in "Departments" are needed to refine this process and insure the best applicants are hired. This will save time in eliminating applicants lacking the credentials and skills that will be required by the depository. Information that should be included is:

- A general description of the position.
- A listing of functions to be performed.
- Educational background and work experience required.

Such job descriptions establish a framework for screening applicants and insuring that incumbents understand the responsibilities of their positions. (A sample job description format is offered in Appendix D.)

Estimated function volumes, time standards and/or policy decisions on quality and service levels are needed to closely project the number of people needed in each position. The standards may also be used to measure the performance of staff members. This information was not yet available at the time of this report. However, the recommendations below on the number of clerical staff members are offered based on past depository experience.

Estimated volumes provided by NSDL include:

- Number of participants - 200
- Number of securities - (groups of) 100
- Number of registrars (assumes maximum of one registrar for each security) - 100
- Number of clearing corporations - 1

Based on the above, estimated staffing requirements follow. Suggestions for skill levels that would be needed in each area are included with the estimated numbers.

OPERATIONS DEPARTMENT

The Operations Department would consist of the Interface Department and the System Operations Department. Estimated staffing for each of the specific areas within these two groups is as follows:

Registrar Interface

Staff must be extremely customer-oriented, have excellent communication skills, and be highly

trained in the depository system. Included in the training should be a complete understanding of the information flows between the participant and the registrar, the registrar and the depository, and the depository and the participant. Each Registrar Interface Representative will also need to acquire and maintain an understanding of the in-house operations at each of the assigned registrars. Discrepancies found through position reconciliations will need to be traced through these processes, requiring problem-solving skills.

The staff in this area also needs some sense of the technical side, at least to the extent that the Registrar Interface Representative knows who to contact to resolve problems.

Considering the confusion and normal problems in setting up any system, it is estimated that each representative could initially handle a maximum of 10 registrars. The maximum number of initial Registrar Representatives would then be "10".

NSDL management will need to adjust this staff size based on the number of issues serviced by each registrar and the complexity of problems experienced by this group of depository users. Ultimately, after all registrars are trained and processes are running smoothly, a representative should be able to handle as many as 30 registrars.

Clearing Corporation Interface

The skills of the staff in the Clearing Corporation Interface should be similar to those of the Registrar Interface Representatives. The only difference would be that the focus of the training would be on the interactions between the depository and the clearing corporation, the participant and the clearing corporation, and the depository and the participant in the area of trade settlement.

Because of the complete automation of this function, staffing at "1" should be sufficient. By creating this position, the depository provides the clearing corporation with a contact person to insure that problems are addressed quickly. This function may also be incorporated into the Registrar Interface due to the anticipated minimal need for manual intervention in the area of the clearing corporation interface.

Participant Interface

Skills of staff here should be similar to those of the other Interface Representatives. The Participant Services Representative must be extremely customer-oriented, have excellent communication skills, and be highly trained in the depository system. An understanding of participant in-house processes as well as the information flows between the participant and the registrar, the registrar and the depository, and the depository and the participant is needed.

Research of discrepancies between the participant and the depository will need to be traced through these processes.

A sense of the technical side is also needed to resolve problems.

Similar to the Registrar Representative staff, initially each Participant Services Representative could serve 10 participants under the initial stages of the depository. The number of initial Participant Services Representatives would then be "20".

Also similar to the Registrar Representative staff, NSDL management will need to monitor the addition of participants, their abilities in using the system, and the complexities of the problems that arise. The staff size should be adjusted accordingly. After all participants have been trained and processing has become routine, each Participant Services Representative should be able to handle 30 participants.

Security Masterfile

Staff in this area must be very detail-oriented to insure that the verification that securities meet eligibility standards is done thoroughly. This will include checking to see that all necessary agreements with the issuers and registrars are in place, and that depository rules and SEBI regulations are met. (Incumbents would not need to know all of these requirements in great detail. A "checklist" approach would be used.) Experience shows that one person can do the necessary research on a security at the rate of 20-25 per day. This function is dependant on the cooperation of the registrars and their timely response to inquiries.

Data input skills/experience are needed to do the data input functions. The ability to do input rapidly is critical. Once the research is completed, input of the data to the security masterfile database should be done at the rate of 50-100 per day. Depending on how the database is structured and how information is fed to the system, the input rate can become as high as 150 securities per day.

A permanent staff of approximately 4 people will be needed to perform maintenance on the database, including daily requests for additions, deletions, and recording of information on corporate actions. (This maintenance is expected to be a manual process. At the time of writing this report, there were no known ways to automate the functions.)

This will not be sufficient, however, to add groups of 100 securities quickly under the planned phases. It would take more than a week to research and enter each group. To speed up this process without hiring large numbers of staff, the following options are available:

- ▶ Use other staff members within the depository to support a concentrated effort in researching and inputting data under each phase.
- ▶ Hire temporary personnel to do input functions if sufficient active depository staff members are not available.

Using the above options could also increase the number of securities attached to each phase.

It should be remembered that the automated processing of the depository is highly dependant on the integrity of the masterfile database. Therefore, extreme care should be taken in staffing this function with very responsible individuals.

This is another area where management needs to monitor activity closely. If securities are added to the system gradually, the Registrar Representatives may be able to absorb the related functions of researching issues. However, if this impedes problem resolution or timely and accurate interfaces with the registrars, then a separate staff to handle the administrative processes is desirable.

INFORMATION TECHNOLOGY DEPARTMENT

Communications

Skills in this area would be those applicable to efficiently developing and operating the communications network as established by the NSDL. This would include expertise in the area of telecommunications and dealing with the complexities of same in India.

A minimum staff of 5-7 people would be needed to operate the network. This would allow for 1-2 people manning the Troubleshooting/Help Desk at all times, and 1-2 people dedicated to telecommunications work.

During the implementation stages of the depository, consideration should be given to temporarily increasing manpower in the troubleshooting area to at least 5 people to insure that problems and questions are addressed immediately.

Computer Operations

Two job positions will be needed in this area: Operator and Job Scheduler. Experience in operating computer systems similar in size and type of equipment as will be used by NSDL should be required of the Operator position. Similarly, experience in the use of scheduling software should be required of the Job Scheduler.

This area will be responsible for running all system jobs in the proper order and in a timely manner. If the system has a 24-hour cycle including maintenance downtime, a minimum of two operators should be scheduled for each eight-hour shift (total of 6 operators). This will insure coverage at all times should one person need to leave the area during the shift. In addition, a minimum of 1 scheduler should be assigned to each shift (total of 3 schedulers).

Disaster Recovery

As with most areas of the depository, the staff in Disaster Recovery must be one concerned with details. A staff of 1 should be sufficient initially. The person should have a systems background, and preferably experience with business continuity plans.

Much of the work is of a one-time nature in this area. Consultants with appropriate expertise should be considered for the development of a disaster recovery plan. Direction to the consultants and subsequent maintenance would be provided by the in-house person.

MARKETING DEPARTMENT

Sales

Incumbents in this area should have experience in the area of selling services. Training of the staff in the services provided by the depository and the benefits to the industry is extremely important. While it is anticipated by NSDL that the marketplace will quickly adopt the new depository concept, there will be a certain portion of the community that will take a "wait and see" attitude. The skills of the sales staff will be critical in persuading those entities to participate.

Two-man teams are usually more effective on initial visits to prospective clients. Call-backs on active clients may be accomplished with the same teams or one salesperson. Typically, sales people are assigned by territory so that the clients see the same salesperson regularly.

For a participant base of 200, four 2-man teams should be sufficient. For start-up purposes the following options should also be considered:

- ▶ Increase the number of teams or number of people on the teams. Excess staff members could then later be used in other areas such as Participant Services or Operations management.
- ▶ Supplement Sales staff with other business management as time and responsibilities allow to initially provide a broader view of the depository to prospective participants.

- ▶ Conduct introductory sessions in-house for potential out-of-town participants, reaching many firms and banks at once. This would also reduce the need for a large, traveling Sales staff. For example, Participant Services management and representatives could be used to help in conducting such sessions.

Training Department

There should be two levels of staff in this area. One level would be the actual trainers; the other, support staff to prepare material, assist in setting up training sessions, etc. The trainers should have developed teaching skills or have had an applicable background.

Training sessions could be held onsite at the NSDL or regionally for groups of potential/active participants, or there may be more individualized training for specific users needed. To support all types of training needs, a minimum staff of 3 trainers and 3 support personnel is needed.

Membership Department

Staffing in this area is dependant on how quickly applications for participation are received. A permanent staff of 2-4 people will be needed to process ongoing paperwork and maintain the participant profile database.

To meet the initial high volume of applications for participation, Participant Interface Representatives or other available depository personnel could be used to activate accounts on a timely basis.

COMPLIANCE DEPARTMENT

Surveillance Department

The desirable staff in this area should have a working knowledge of both the depository rules and industry regulations. Some financial training is also needed to assist the depository in developing financial requirements for participation, perform ongoing monitoring of same, and do periodic reviews of participants' in-house records.

The Surveillance Department would also be responsible for monitoring and reducing risk associated with eligible securities. Therefore, an understanding of corporate structures and corporate actions is needed.

Initially, this area will be concerned with reviewing and approving a large number of participant

32

applications. Most of the paperwork should be completed and presented to the Surveillance Department by the Membership Department. The Surveillance Department would simply review the file, request any additional information or documents needed, and provide approval or reject the application with reason. Later, the Surveillance staff will also be concerned with monitoring activity and periodic reviews of participants.

Assuming periodic reviews can be grouped by territory to provide for traveling efficiencies, a permanent staff of 4-6 people should be sufficient.

Risk Management Department

The individuals in this area must be able to analyze the risk associated with operating the depository. Experience in the insurance industry would be helpful if the incumbent was familiar with what type of coverage is available that is related to the securities industry. If the depository elects to be self-insured through some type of fund, staff in the Risk Management Department must be able to administer such a program. Administration of the Participant Fund (vs. requirements as established and monitored by the Surveillance Department) could also be fixed with this department.

A staff of two people should be sufficient to do research in this area, make recommendations to management, administer fund program(s), and do periodic reviews of insurance needs. *

Legal Department

Initially the Legal Department will be focused on participation requirements and regulations. Work with corporate contracts will evolve over time. To meet these needs, this area should be staffed at "2".

Obviously, a law degree would be required of incumbents. Applicable industry experience would be of benefit to the depository.

Should the volume of work eventually increase sufficiently to justify making the Legal Department a standalone area, or should it be felt that this area belongs under Support Services, one lawyer should continue to be assigned to the Surveillance Department. This will insure continual focus on risk and provide immediate attention to identified problem areas.

Consideration can also be given to outsourcing much of the legal workload, if efficiencies or necessity dictates this approach.

INTERNAL AUDIT

Some financial or accounting background is needed for those auditors assigned to the business functions. Systems experience would be needed for the person assigned to the Information Technology Department. The auditing staff will need a good sense of how the depository system operates and the functional procedures of each department. The latter would be gained over time, as each auditor works with department heads to understand their specific responsibilities. Auditors must also be perceptive in not only auditing existing procedures, but also in auditing for the absence of procedures deemed to be necessary.

To avoid conflicts of interest, at least one auditor should be on staff for each main department. This would bring the minimum staffing level to "5".

SUPPORT SERVICES

Skills of the staff members in each of the Support Services areas would be those that are traditional in any industry. Estimates of the number of people needed in each area based on the initial volume projections provided by NSDL are offered as follows:

- Human Resources - 4-6
- Accounting Department - 4
- Administrative Services - 3
- Distribution/Mail Department - 3-4
- Security - 2-3 plus guards as needed for the physical facility

OTHERS

The above estimates on staffing for all departments of the depository are for those functions to operate the system. It does not include the management team of 1 manager for Internal Audit reporting to the Managing director and 5 main department managers reporting to the Deputy Managing Director (see "Management Structure" and Chart 1 of the organizational charts). It also does not consider such staff members as secretaries, typists, file clerks, etc. A minimum of one person would be needed for each of the designated main departments, with some sub-departments needing their own dedicated staff. Therefore, the need in the area of secretary, typist, receptionist, etc. is estimated at "6-10".

VI. ADDITIONAL CONSIDERATIONS

The recommendations provided within this report are only a beginning. The development of the depository will be a continuing process. Management of the depository will need to periodically review volumes, workflow, and potentially new services as participation expands. The initial subdepartments may need to be further divided, and even regrouped under additional Vice Presidents, Assistant Vice Presidents, Managers, and Assistant Managers. For example:

- **Legal Department (Compliance)** - This could become a standalone department if corporate legal needs for the NSDL begin to balance out the focus on compliance.
- **Human Resources** - Demands on this area will increase relative to staff growth. It may be desirable to establish skills training and continuing education programs. Employee benefit plans and the use of same will continue to change. The potential of arbitration of employee differences will increase as the employee base expands. All of this may justify separating this department under an additional Vice President.
- **Product Development** - The addition of this area would be important to insuring that the depository system meets the needs of the industry. It would also address future service considerations by the depository; and be responsible for the development of new services. Such a department would be incorporated under the Marketing Department, and would work both with the business and technical sides on projects.
- **Procedure Writing** - Initially, the management of the various departments could probably document procedures used by the staff. However, this can become very time-consuming. As a result, the extremely important process of documenting procedures is neglected as the demands of the daily work become a priority of the managers. The employment of a staff of procedure writers insures that this task is accurately maintained on a timely basis.

Because of the magnitude of the number of procedures that must be developed early in the implementation process, the NSDL should consider staffing in this area soon. This might be temporarily covered with outside consultants until a corporate department is established.

- **Quality Assurance** - This is an area often added by depositories. Routine functions of all departments are periodically sampled to insure accuracy of processes. Reports are then provided to management on the findings of Quality Assurance.
- **Business Continuity Plan/Disaster Recovery** - Provision for disaster recovery in the

technical area has been made within this report. NSDL will need to expand such plans to address the business side of business continuity and disaster recovery.

Other future considerations will include the impact of the addition of new services. For example, it is planned to add the pledge/hypothecation and securities lending features once the regulations are established. Additional clearing corporations may use the depository for the settlement of trades. Management will need to review how the addition of these services will affect the depository operations. Since the processes should be as automated as other services, additions to staff may not be needed. However, additional training of both internal and external parties will be required.

VII. SUMMARY

Based on the review and considering the services to be provided by the NSDL, the following recommendations have been made:

1. The structure of the NSDL should include a group of main departments with subdepartments to address specific functions as noted below:
 - Operations Department subdivided into the Interface Department (Registrar Interface, Clearing Corporation Interface, and Participant Interface), and the System Operations Department (Computer Operations and Security Masterfile).
 - Information Technology Department subdivided into Communications (including telecommunications and the Troubleshooting/Help Desk) and Disaster Recovery.
 - Marketing Department subdivided into Sales Department, Training Department, and Membership Department.
 - Compliance Department subdivided into Surveillance Department, Risk Management, and Legal Department.
 - Internal Audit, reporting to the Managing Director and the Board of Directors to insure division of duties.
 - Support Services subdivided into Human Resources, Accounting Department, Administrative Services, Distribution/Mail Department, and Corporate Security Department.
2. The management structure for the NSDL should follow the pyramid philosophy. Charts 1-3 are provided to illustrate lines of management for the above departments.
3. Initial management structure should be adjusted to insure financial and operational efficiencies. This may mean assigning multiple department heads to main departments or subdepartments; or hiring lower levels of management for some areas until volumes, depository services, and/or staff numbers justify higher levels.
4. No matter what the title (Vice President, Assistant Vice President, Manager), the first level of management (main departments except Internal Audit) should report to Deputy Managing Directors to insure there is direct communication to senior management on operational processes and problems.

5. Based on preliminary estimates of the number of initial participants, registrars, eligible securities, and one clearing corporation, the following staffing levels are estimated:

Management

- Chairman	1
- Managing Director	1
- Deputy Managing Director	2
- Internal Audit	1
- Operations Department	1
- Information Technologies	1
- Marketing Department	1
- Compliance Department	1
- Support Services	1

Operations Department Staff

- Registrar Interface	10
- Clearing Corporation Interface	1
- Participant Services	20
- Security Masterfile	4

Information Technologies Staff

- Communications	5-7
- Computer Operations	9
- Disaster Recovery	1

Marketing Department Staff

- Sales Department	8
- Training Department	6
- Membership	4

Compliance Department Staff

- Surveillance Department	4-6
- Legal Department	2

<i>Internal Audit Staff</i>	5
<i>Support Services Staff</i>	
- Human Resources	4-6
- Accounting Department	4
- Administrative Services	3
- Distribution Department	3-4
- Security Department	2-3
Secretaries, file clerks, receptionists, etc.	6-10
Total	111-123

6. A sample job description has been provided to assist in defining positions. This will help in the recruiting process as well as specify responsibilities to employees.

The pyramid structure of management at NSDL should continue to evolve as growth is experienced at the NSDL. Service and function volumes must continually be monitored by senior management. Insufficient staffing due to rapid growth within the depository would mean that timeliness and accuracy of processes would suffer. As the first, and possibly the only, depository in India, NSDL will be under scrutiny by both the users and the regulators. The needs of the industry will exert pressure on the depository to constantly improve and add services. International standards will continue to rise. Proper organizational structure with sufficient management and subordinate staff will help to insure that the reputation, credibility, and realization of expectations of the NSDL of India remain high.

VIII. NEXT STEPS

It is most critical that the NSDL immediately establishes a management team to create the framework for the depository. This management team would consist not only of the positions already established, but would designate a management head for each of the main departments. The responsibilities of this team would include:

- ▶ Identification of departmental communication and work flows.
- ▶ Identification of specific functions for each of their respective areas.
- ▶ Identification of job positions for each area.
- ▶ Preparation of job descriptions for each position.
- ▶ Final interviewing of applicants.
- ▶ Making final hiring decisions.
- ▶ Initial procedure writing.
- ▶ Basic training of new hires.
- ▶ Establishing work standards.
- ▶ Defining needed management tools (such as management reports).

It is important that the management team be involved in the development of the organizational structure and, more specifically, their departments. The managers of the departments will be depended upon to carry out the expectations of the depository.

To insure a qualified management team is assembled, the NSDL must look for experienced people. If enough depth of experience cannot be found internally among the NSDL team, then recruiting from the outside needs to begin immediately. Potential management personnel may be found in the related securities and banking industries.

Price Waterhouse is prepared to assist the NSDL management team in any of the above areas as needed.

APPENDICES

List of Appendices

- A. Materials reviewed**
- B. Individuals interviewed**
- C. Organizational Charts**
- D. Job Descriptions - "format and sample"**
- E. List of Workshop participants**
- F. Material presented in the Workshop**

17

42

Appendix A

Materials reviewed

Interim Report on the National Clearance and Depository System
Prepared by Price Waterhouse, July 21, 1992

Draft Final Report on the National Clearance and Settlement System, Volume 1
Prepared by Price Waterhouse, January 19, 1993.

National Clearance and Depository System, Volume 2, Final Report
Prepared by Price Waterhouse, May 24, 1993.

The Depositories Ordinance, 1995.

Consultative Paper No. X on Regulations for Depositories and Depository Participants
Published by Securities and Exchange Board of India, October 17, 1995

National Clearance and Depository System, Request for Information
Prepared by Price Waterhouse, June 1995.

Response to RFP, Technical Proposal
Prepared by Tata Consultancy Services, March 1996.

Appendix B

Individuals interviewed

Mr. Ravi Narain, Deputy Managing Director, National Stock Exchange of India

Mr. C. B. Bhave, Managing Director, National Securities Depository Limited

Mr. Chitra Ramakrishna, Senior Vice President, National Stock Exchange of India

Mr. R. Chandrasekhar, Officer, National Stock Exchange of India

Mr. Makesh Bharadwaj, Officer, National Stock Exchange of India

Mr. Ananta Barua, Division Chief, Securities and Exchange Board of India

Mr. Niral Maru, Securities and Exchange Board of India

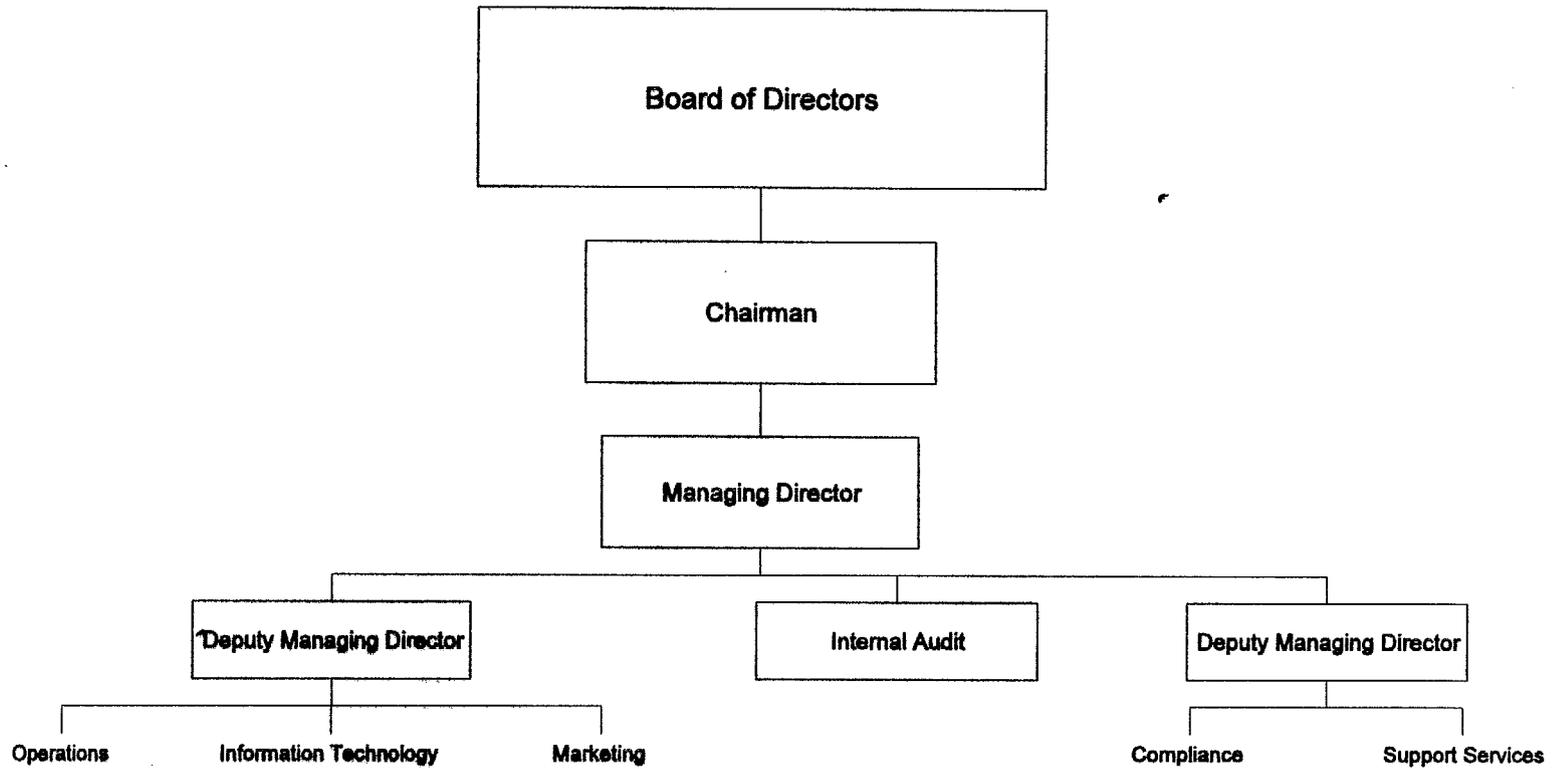
17

44

Appendix C

Organizational Charts

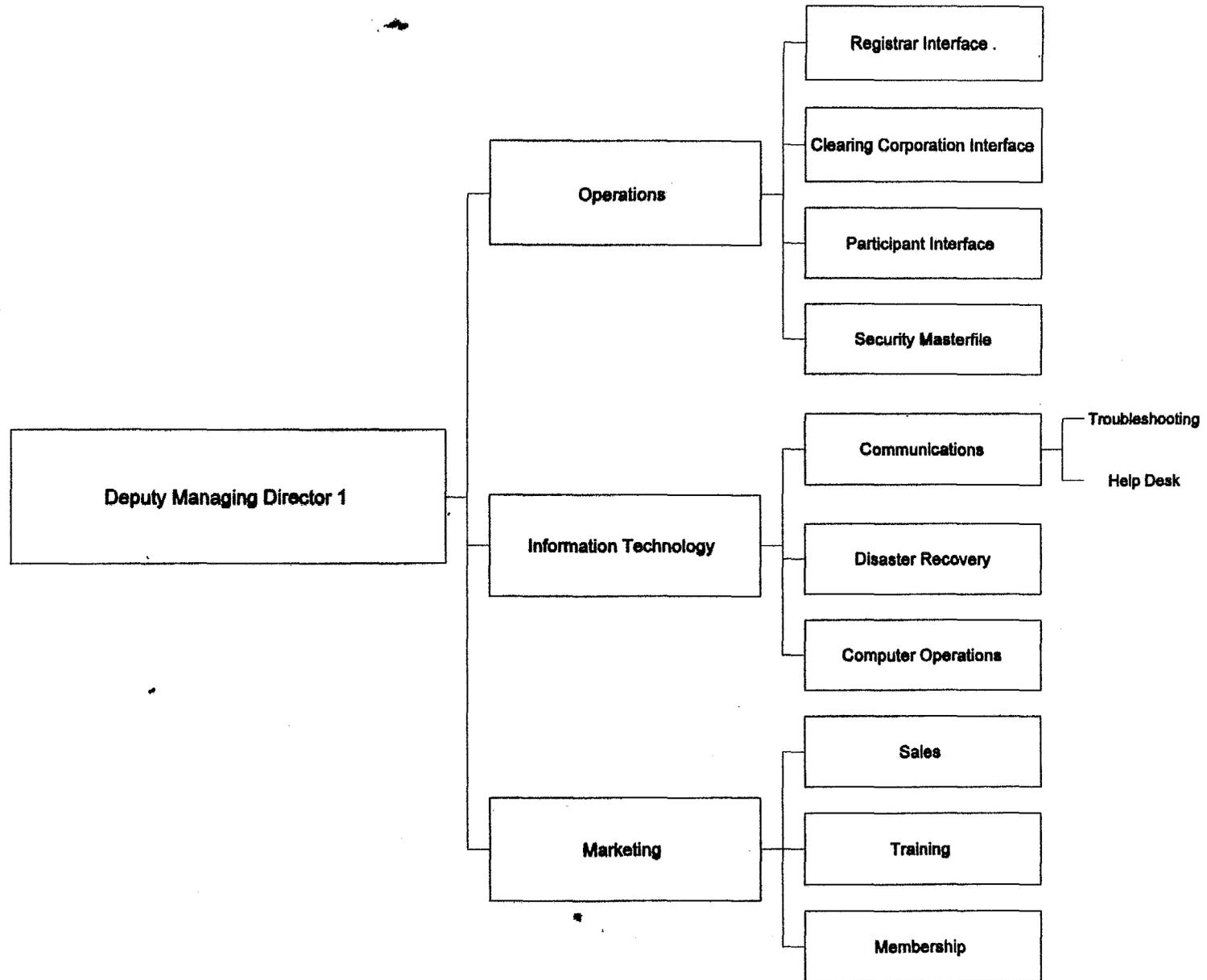
ORGANIZATIONAL CHART - MAIN DEPARTMENTS



dfp

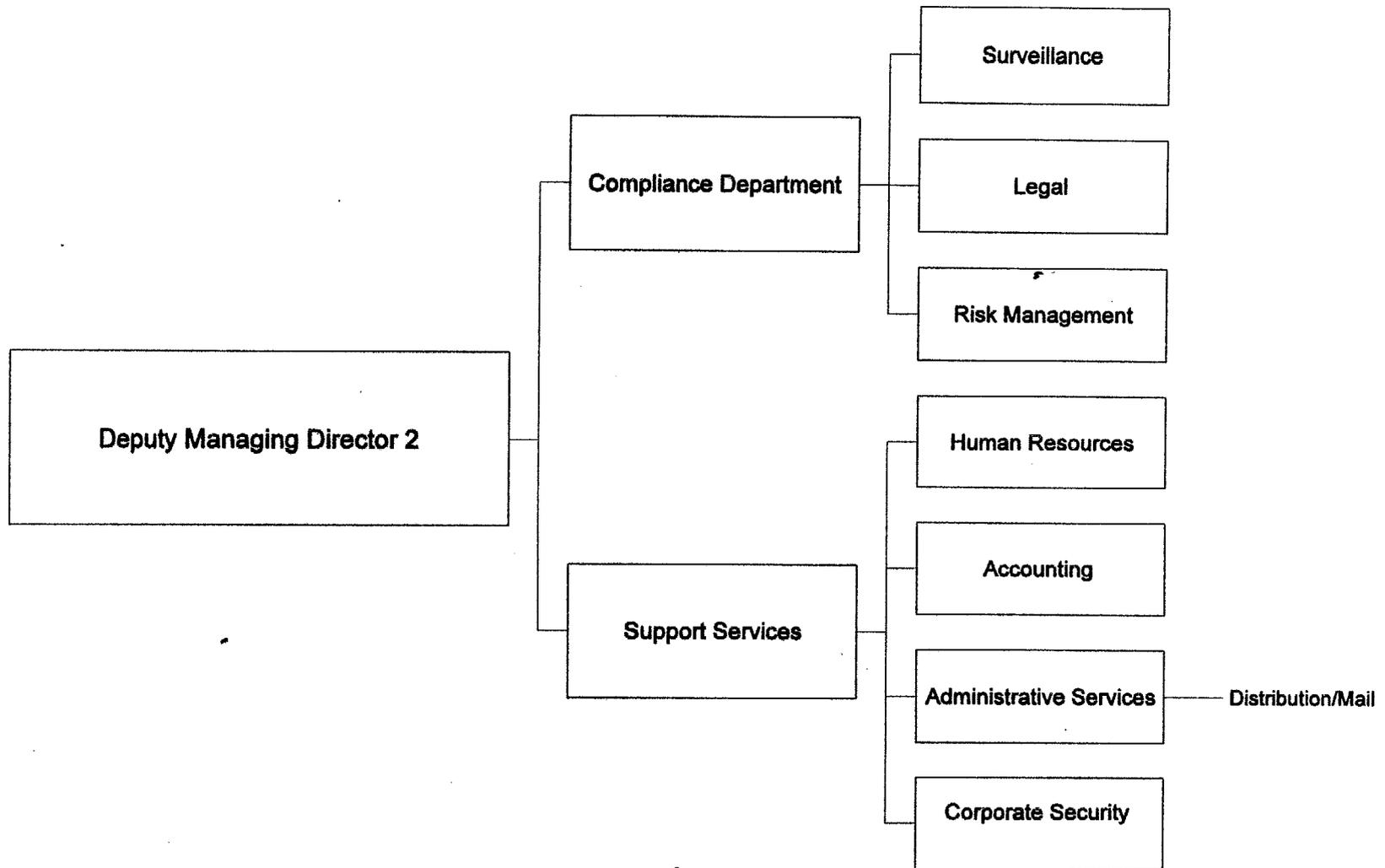


ORGANIZATIONAL CHART - SUB DEPARTMENTS



57

ORGANIZATIONAL CHART -SUBDEPARTMENTS



SP

Appendix D

Job Descriptions - Format and Sample

*******JOB DESCRIPTION FORMAT*******

Title: Name given to position.

Basic Purpose: A general statement about the purpose of the position and its responsibilities.

Principal Responsibilities: A list of the primary duties that the employee will be expected to perform. Include such details as estimated work volumes, financial responsibilities, and other entities with which the incumbent is expected to interact.

General Information: Comments on educational background and work experience required are entered here. Also include such skills needed as communication, decision-making abilities, and the operation of office equipment.

Approvals: As set by corporate policy. Should include at least two levels above the position described.

JOB DESCRIPTION

Title: Manager - Cash Management

Basic Purpose: Oversees and controls, through subordinate supervisors, money settlement activities for the depository and clearing corporation, settlement and margin requirements for mortgage-backed securities, and all cash dividend, bond interest and principal receipts due from paying agents.

Principal Responsibilities:

1. Monitors money settlement services, overseeing that bank balances are not deficit, excess funds are invested and final collections are prompt. Reviews and approves all settlement and dividend bank account reconciliations (approximately 30) to ensure entries have been processed properly by both the depository and the banks; and that all balance requirements have been fulfilled. Investigates, discusses and resolves major money/balance discrepancies with bank account officer, participants, and operating departments.
2. Directs the expedition of dividend/interest receipts, the maintenance of the dividend accounting and cash management systems, account balances, and the depository collection service. Reviews and analyzes dividend/ interest receipts, reporting to management the financial impact of delayed vs. expedited receipts on the depository.
3. Directs the processing of foreign and U. S. taxes applicable to participant dividend/ interest receipts and disbursements. Must be able to analyze and understand tax treaties between the U. S. and foreign countries.
4. Conceives, develops and designs, with the aid of system analysts, system enhancements and new products which will promote new services and improved accuracy of current functions performed within the settlement and dividend/interest departments. Reviews and approves procedural changes to ensure compliance with audit controls and improved efficiencies, reduced costs, or increased revenues.
5. Interviews and selects qualified applicants for subordinate supervisory positions. Evaluates performance of and approves salary increases for departmental employees. Counsels, documents and disciplines employees in accordance with corporate policy. Approves vacation time to meet departmental needs.
6. Reviews and approves expenditures from the dividend accounting and settlement budgets. Prepares a monthly variance for each budget, explaining budget variations.

General Information:

A Bachelor's degree in accounting of finance in addition to 1-2 years of supervisory or managerial experience is required. Three to five years of banking/accounting experience is also necessary. The individual must possess strong organizational and communication skills, an ability to analyze thoroughly and act decisively under strict deadlines. Indecision could create potential financial risk for the depository and clearing corporation.

Currently, the departments are comprised of two subordinate supervisors and twenty-seven clerical employees. The manager will administer a departmental budget of approximately \$1 million, oversee daily money settlements of approximately \$600 million and annual dividend/interest receipts of \$6-8 billion.

The above statements are intended to describe the general nature and level of work being performed by the incumbent assigned to this classification. The responsibilities are not intended to be construed as an exhaustive list of all responsibilities so classified.

APPROVALS:

Vice President

Senior Vice President

Managing Director

Appendix E

List of participants of Workshop held at NSE on July 1, 1996

Dr. R. H. Patil, Chairman and Managing Director, National Stock Exchange

Mr. Ravi Narain, Deputy Managing Director, National Stock Exchange

Mr. C. B. Bhave, Managing Director, National Securities Depository Limited

Ms. Chitra Ramakrishnan, Senior Vice President, National Stock Exchange

Mr. Makesh Bharadwaj, Officer, National Stock Exchange

Ms. Mathreyi Krishnamoorthy, Officer, National Stock Exchange

Appendix F

Material presented in the Workshop held at NSE on July 1, 1996

WORKSHOP ON ORGANIZATIONAL STRUCTURE

FOR

NATIONAL SECURITIES DEPOSITORY LIMITED

PRESENTED BY PRICE WATERHOUSE

July 1, 1996

**WORKSHOP ON ORGANIZATIONAL STRUCTURE
FOR
NATIONAL SECURITIES DEPOSITORY LIMITED
PRESENTED BY PRICE WATERHOUSE**

July 1, 1996

AGENDA

- I. Introduction
 - II. Overview of Workshop Objectives
 - III. Review of Proposed Services to be Provided
 - IV. Development of Departmental Structure
 - V. Development of Management Structure
 - VI. Determining Staffing Requirements
 - VII. Additional Considerations
 - VIII. Next Steps
 - IX. Summary of Workshop
- 5

WORKSHOP ON ORGANIZATIONAL STRUCTURE FOR NSDL

WORKSHOP OBJECTIVES

***Development of an organizational structure for the depository.**

-Departments needed based on services to be provided.

-Management structure needed to control work.

***Development of estimated staffing for the depository.**

-Types of staff positions needed.

-Skills needed.

-Preparation of job descriptions.

-Estimating number of people needed.

**PRIMARY DEPARTMENTS NEEDED BY
NSDL
BASED ON PROPOSED CORE SERVICES**

***OPERATIONS DEPARTMENT**

***INFORMATION TECHNOLOGY DEPARTMENT**

***MARKETING DEPARTMENT**

***COMPLIANCE DEPARTMENT**

***INTERNAL AUDIT,**

***SUPPORT SERVICES**

**SUBDEPARTMENTS OR AREAS OF FOCUS FOR
NSDL**

***OPERATIONS DEPARTMENT**

- Registrar Interface

- Clearing Corporation Interface

- Security Masterfile Department

**SUBDEPARTMENTS OR AREAS OF FOCUS FOR
NSDL**

***INFORMATION TECHNOLOGY DEPARTMENT**

- Communications

- Disaster Recovery Department

- Computer Operations

SUBDEPARTMENTS OR AREAS OF FOCUS FOR NSDL

***MARKETING DEPARTMENT**

- Sales Department

- Participant Services

- Training Department

- Membership Department

**SUBDEPARTMENTS OR AREAS OF FOCUS FOR
NSDL**

***COMPLIANCE DEPARTMENT**

- Surveillance Department

- Legal Department

***INTERNAL AUDIT DEPARTMENT**

**SUBDEPARTMENTS OR AREAS OF FOCUS FOR
NSDL**

***SUPPORT SERVICES**

- Human Resources
- Accounting Department
- Administrative Services
- Distribution/Mail Department
- Security Department

**ESTIMATED STAFFING REQUIREMENTS BASED ON
INITIAL VOLUMES FOR NSDL OF INDIA**

OPERATIONS DEPARTMENT

*Registrar Interface	10
*Clearing Corporation Interface	1
*Security Masterfile	4

INFORMATION TECHNOLOGY DEPARTMENT

*Communications	5
*Disaster Recovery	1
*Computer Operations	9

MARKETING DEPARTMENT

*Sales Department	8
*Participant Services	20
*Training Department	6
*Membership	4

COMPLIANCE DEPARTMENT

*Surveillance Department	4-6
*Legal Department	2

INTERNAL AUDIT

5

SUPPORT SERVICES

*Human Resources	4-6
*Accounting Department	4
*Distribution Department	3-4
*Security Department	2-3

SECRETARIES, FILE CLERKS, ETC.

6-10

*TOTAL , 98-108

*PLUS MANAGEMENT 10

*TOTAL ALL STAFF 108-118

ESTIMATED INITIAL VOLUMES

FOR

NSDL OF INDIA

***Number of Participants - 200**

***Number of Registrars - 100**

***Number of Clearing Corporations - 1**

***Number of Securities - Groups of 100**

64

RECOMMENDED INITIAL DEPARTMENTS FOR NSDL

***OPERATIONS DEPARTMENT**

- Registrar Interface
- Clearing Corporation Interface
- Security Masterfile Department

***INFORMATION TECHNOLOGY DEPARTMENT**

- Communications
- Disaster Recovery
- Computer Operations

***MARKETING DEPARTMENT**

- Sales Department
- Participant Services
- Training Department
- Membership Department

***COMPLIANCE DEPARTMENT**

- † - Surveillance Department
- Legal Department

***INTERNAL AUDIT DEPARTMENT**

***SUPPORT SERVICES**

- Human Resources
- Accounting Department
- Administrative Services
- Distribution/Mail Department
- Security Department

ANTICIPATED CORE SERVICES TO BE PROVIDED BY

NSDL

***Recording/updating of participant positions resulting from:**

- Dematerialization and rematerialization of securities.
- Corporate actions.
- Delivery out/receipt in of securities in settlement of trades.

***Supporting activity participants and registrars.**

- Training on how to use the system
- Resolving problems encountered in day-to-day processing.

***Sale of depository services**

***Providing system specifications to users of the depository.**

***Risk reduction.**

SUMMARY OF RECOMMENDATIONS

ON

ORGANIZATIONAL STRUCTURE FOR NSDL

- *Main departments with sub-departments identified.

- *Pyramid management structure.

- *Adjustments to initial management structure for efficiencies.

- *Main departments report directly to Deputy Managing Director.

- *Staffing volumes based on anticipated activity levels.

- *Sample job description provided.

- *Ongoing monitoring of depository management and department structure needed.

- * Next steps to be taken.

ALTERNATIVES TO PROPOSED NSDL MANAGEMENT STRUCTURE

*Assign multiple main departments to available management at the Vice President level. **Consider conflicts of interest and span of control.**

*Assign multiple subdepartments to available management at the Manager level. **Consider conflicts of interest and span of control.**

*Hire at a more junior level. (Example: Assistant Vice President instead of Vice President; Assistant Manager instead of Manager). **Recognize development and outstanding performance through promotion later.**

*Temporarily spread departments within Support Services among available management. **Consider conflicts of interest and span of control.**

**USE OF ALTERNATIVES TO PROPOSED
NSDL MANAGEMENT STRUCTURE**

IMPORTANT

**MAIN DEPARTMENT HEADS SHOULD REPORT TO
DEPUTY MANAGING DIRECTOR TO INSURE THAT
♦ SENIOR MANAGEMENT REMAINS CLOSELY IN
TOUCH WITH ACTIVITY LEVELS AND PROBLEMS
ENCOUNTERED.**

DEVELOPING STAFFING REQUIREMENTS

ISSUES TO CONSIDER

***Functions to be performed**

***Skills needed to perform functions**

***Processing volumes**

***Processing standards**

MANAGEMENT STRUCTURE

ISSUES TO CONSIDER

***Financial considerations**

- Does initial financing of the depository support the number of management staff?
- Do revenues of the depository support the number of management staff?

***Work volumes/demands**

- Do processing volumes support staff volumes?
- What is the acceptable span of control at each management level?

***Time needed to identify necessary skills for management levels.**

***Lack of qualified applicants for all levels.**

***Time needed to process qualified applicants.**

ADDITIONAL CONSIDERATIONS FOR NSDL

***Changes in departments needed.**

***Changes in staffing size.**

***Additional services added.**

***Additional levels of management needed.**

***Formal training programs.**

12

**MANAGEMENT STRUCTURE FOR NSDL
CONSIDERATIONS FOR MANAGEMENT GROUPINGS**

*Group complimentary and related functions under one manager.

*Insure conflicts of interest are considered.

**NOTE: TERM MANAGER IS USED GENERICALLY IN
REFERRING TO DEPARTMENT HEADS. THIS POSITION
MAY BE
VICE PRESIDENT, ASSISTANT VICE PRESIDENT OR
MANAGER**

**ESTIMATED STAFFING REQUIREMENTS BASED ON
INITIAL VOLUMES FOR NSDL**

MANAGEMENT

*Chairman 1

*Managing Director 1

*Deputy Managing Director 2

*Main Department Heads 6
(Vice President, Assistant Vice President, Manager ?)

*TOTAL MANAGEMENT 10

74

NEXT STEPS FOR NSDL

***Establish a management team covering all main departments**

***Identify specific functions and job positions**

***Prepare job descriptions**

***Interview and hire**

***Write procedures**

- Internal

- External

***Implement procedures**