AUDIT GUIDELINES
INVESTMENT MANAGEMENT
(Portfolio Management, Operations and Accounting)

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I. INTRODUCTION

General Background

The investment management business has grown dramatically since the 1980's in terms of assets managed and the types of investment advisory services provided to the public. Investment advisory services include such activities as traditional mutual fund management company activities, fee-based money management services provided by independent advisers, and advisory services provided to private banking clients of financial institutions. This circumstance, along with the phenomenal success of mutual funds, the rapid development of the financial planning industry and the enormous growth in pension plan assets ensures an increasingly influential role for investment advisory services in the financial markets.

Investment management may be grouped into two broad types of businesses, mutual funds and investment advisory services. While there are similarities between the two, in large part the activities and requirements of each of these businesses differ significantly.

A mutual fund serves as a financial intermediary for investing funds of individuals or institutions. The fund receives monies in exchange for shares in the fund and invests these pooled funds primarily in publicly traded securities. A fund is "mutual" in the sense that all of its returns, less expenses are shared by the fund's shareholders. A mutual fund hires an investment advisor (i.e., management company) to manage the investments of the fund, and pays an advisory fee to the advisor under a management contract approved by the fund's independent directors. Each mutual fund has a principal underwriter, usually affiliated with its investment advisor, which organizes the sales of fund shares. Fund shares may be sold directly by the underwriter or through a broker/dealer network.

In an investment advisor relationship, an individual or institution hires an advisor to directly advise the individual or institution on investments. The basis for the relationship is a legal contract between the client and the advisor. An account is established for the client in which all activity arising from the advisory services is recorded. The advisor may or may not have discretionary authority over the account. Investment advisors may be independent firms that are in the sole business of providing investment advice to clients or may be part of a larger financial institution such as a broker/dealer or bank. Starting in early 2006, most, if not all hedge funds will have to be registered as investment advisors.

Both the mutual fund business and the investment advisory business frequently utilize third party service providers to perform required functions in lieu of building the necessary infrastructure themselves. Sometimes the service provider is an affiliated entity. Frequently, however, the service provider is an independent organization. Functions for which a service provider may be utilized include, among other things: portfolio management, trading, clearance and settlement, asset servicing, custody and shareholder services. Whether the service provider is an independent or affiliated entity a service level agreement should be executed, establishing a contractual arrangement for the services to be provided.

In auditing investment management activities it is important to distinguish the type of business under review since that will have a major implication on the risks and controls that should be present as well as the audit steps to be performed.

General Background

The investment management business encompasses a wide variety of activities, each with their attendant risks. These activities have been categorized into the following components:

- Portfolio management
- Operations
- Accounting
- Sales and marketing
- Distribution
- Compliance
- Administration

The above components will be covered in three separate guidelines. The activities encompassed in this guideline include portfolio management, operations and accounting for the investment management business. A separate guideline will cover sales, marketing and distribution and a third guideline will deal with compliance and administration.

This Audit Guideline for the portfolio management, operations and accounting for an investment management business is intended as a tool to facilitate the internal auditor's determination and assessment of the potential risks inherent in those activities and the related controls which an organization may use to manage, monitor, and evaluate those risks. Also included are possible work steps that the internal auditor may perform to assess the adequacy and effectiveness of controls and processes used in the monitoring of portfolio management, operations and accounting over investment management activities.

Principal Regulations

The principal law regulating mutual funds is the Investment Company Act of 1940 (the 1940 Act). The 1940 Act requires, among other things, daily pricing of its assets based on market value, restrictions on transactions between a fund and its manager, limits on leverage, and a statutory system of independent directors. It imposes regulations not only on the funds themselves but also on their investment advisers, principal underwriters, directors, officers and employees.

The investment adviser business is primarily governed by the Investment Advisors Act of 1940 (the Advisors Act). The Advisers Act was enacted, in part, to strengthen the fiduciary relationships between advisers and their customers. The SEC has stated that investment advisers owe their clients several specific duties as fiduciaries, including: providing suitable advice, full disclosure of all material facts and potential conflicts of interest, utmost and exclusive loyalty and good faith, best execution of client transactions, and the exercise of reasonable care to avoid misleading clients.

Principal Regulations

An important provision of the Advisers Act and state securities laws is the requirement for registration of advisers with their state or with the SEC. Once registered, the advisers must comply with the regulations promulgated by the SEC or the applicable state.
Allowing for certain exemptions, an adviser is defined as “any person who, for compensation, engages in the business of advising others, either directly or through publications or writings, as to the advisability of investing in, purchasing, or selling securities, or who for compensation and as part of a regular business, issues or promulgates analyses or reports concerning securities.”

Regulatory compliance is not within the scope of this particular Audit Guideline but, as stated above will be covered in a succeeding guideline.

Portfolio Management, Trading, Operations and Accounting

Portfolio management involves those activities associated with the establishment and maintenance of the underlying portfolio of the investment vehicle. Such activities primarily include investment decisions and strategy. The portfolio manager typically has certain benchmarks established against which performance will be measured. In general terms, the manager’s objective is to achieve a portfolio return larger than the return achieved by the benchmarks over the same period. In addition to the target benchmarks, the portfolio manager must decide the percentage of the portfolio to be invested at any particular point in time (as opposed to the portion to keep in cash or cash equivalents) and the level and type of diversification of the portfolio. Once those basic decisions have been made the portfolio manager than must decide the specific purchases and sales of securities. The portfolio manager does not execute security trades but rather places orders through an executing firm, which may either be an external organization or a related entity. In many larger firms the portfolio manager may place the order with an order desk, which is part of the investment management group, whose function is to manage the order flow and ensure that orders are executed expeditiously. For purposes of this Guideline a portfolio manager is considered to be someone whose responsibility is to manage a portfolio, be that for a mutual fund or for a managed customer account.

Trading practices involve all those activities associated with the execution of an order. Those activities include order management, trade recording and trade allocations. Allocations involve the breakdown of orders, which have been consolidated for purposes of execution or the breakdown of orders submitted by a portfolio manager who is responsible for multiple funds or accounts. It is important that the trade executions be recorded into the proper accounts on the same day that they are completed.

Operations involve activities such as those necessary to ensure the accuracy and completeness of transaction processing, verification of corporate actions and portfolio pricing and reconciliation.

Accounting activities include maintenance and accuracy of the accounting records, verification and recording of fees and expenses and calculation of the net asset value.

Risks/Audit Objectives

There are a great number of risks associated with an investment management business. This audit guideline specifically covers those risks arising from portfolio management, operations, and accounting functions related to investment management. Those risks associated with sales and marketing and compliance and administration matters are the subjects of audit guidelines dealing with those specific topics. For purposes this Audit Guideline the risks have been separated into five general categories. Those risks and the related audit objectives are described below.

Portfolio management and trading practice risk is the potential that the portfolio may not be adequately managed, including trade authorization, best execution, trade allocation or trade recording. As a result, financial losses may be incurred, books and records may be inaccurate and fiduciary responsibility may not be met. Trading generally represents the majority and most financially significant activity.

> ***Audit objective:*** Ascertain that a process exists to ensure that the portfolio is properly managed and that all trades are authorized, executed at the most favorable prices, recorded timely and accurately, and properly allocated.

Operational risk is present when corporate actions are not processed timely and accurately, when security positions are not properly reconciled to custodian records or when security pricing is not performed properly. An extension of operational risk may result in severe reputational damage to the organization and/or regulatory sanctions.

> ***Audit objective:*** Determine that: (1) corporate actions are processed timely and accurately; (2) portfolio positions are reconciled to custodian records, and; (3) securities are priced accurately and timely.

Accounting risk involves the potential that fund or managed account fees and expenses are not recorded accurately and that the net asset or account value are incorrect.

> ***Audit objective:*** Verify that controls and procedures are in place to ensure that fund or managed account fees and expenses are appropriate and accurate and that the net asset value of the fund or the customer account is calculated accurately and timely.

Credit or market risk exists when the organization does not have an adequate risk management system designed to avoid excessive exposure to market or credit conditions which could result in financial losses (credit or market risk is included with portfolio management risk in the attached audit guidelines).

> ***Audit objective:*** Assess the effectiveness of the organization's risk management system to minimize unnecessary exposure to market or credit losses.

Risks/Audit Objectives

Regulatory risk may exist if the organization has entered into soft dollar arrangements that do not conform to the safe harbor provisions of the rules (Section 28e).

> ***Audit objective:*** Ascertain that the organization is in compliance with the SEC's safe harbor provisions with respect to its soft dollar arrangements.

Audit Guidelines

The following guidelines are presented to assist the internal auditor in conducting a review of portfolio management, operations and accounting activities for an organization's asset management business. It is important to note that these guidelines are general in nature and do not necessarily represent an exhaustive set of procedures for auditing these functions. Judgment should be exercised when determining the specific procedures to be performed and those procedures should be tailored to the environment being reviewed.

II A. AUDIT GUIDELINES

This guideline is intended to provide members of the Securities Industry Association, Internal Auditors Division, with information for the purpose of developing or improving internal audit programs. The information is designed to provide guidance to member firms in the preparation of procedures tailored to the specific needs of their individual environment. Internal auditors should always use professional judgment in determining the specific procedures to complete audit steps.

The numbered references in the "Risks to be Managed" section of the following tables are a cross-reference to the "Process Flowchart" included on page 19. These references are included for informational purposes and can be used to determine the potential areas of investment management that may be affected.

Portfolio Management and Trading Practice Risk

Risks to be Managed	*Types of Controls to Manage or Eliminate Risks*	*Potential Audit Work Step*
Portfolio management practices are inconsistent or erroneous resulting in poor or improper investment management decisions. • Portfolio management activities are not subject to adequate oversight and supervision. • Portfolio managers are unaware of positions and funds in managed accounts. • Research and analysis is not made available to portfolio managers on a timely basis. • Fund or managed account performance is not calculated accurately, timely or independently. • Portfolios do not comply with client/fund guidelines and restrictions. (Refer to Investment Management Compliance Audit Guideline for controls and audit work steps). • Available cash is not invested overnight. (1, 2, 3, 4, 18)	**Portfolio Management** • Portfolio manager activities are supervised daily. • An investment committee periodically reviews investment activities/decisions. • Portfolio managers are provided with daily reports of trading activity, positions and funds in managed accounts. • Research and analysis is automatically made available to all portfolio managers on a continuous basis. • There is regular communication between research analysts and portfolio managers to discuss results of analysis. • Fund or managed account performance is calculated by a group independent of portfolio management and provided to portfolio managers daily.	**Portfolio Management** • Ascertain that portfolio managers are subject to daily supervision and that supervisors are provided with adequate reports detailing investment activities and performance. • Verify the existence of an investment committee and determine that it: ♦ Meets on a regular basis and that it reviews investment activities/decisions. ♦ Is comprised of senior management personnel independent of portfolio management responsibilities. • Review daily reports received by portfolio managers (trading, positions, etc.) and evaluate their completeness and accuracy. • Verify that research reports are made available to portfolio managers and that there is regular communication between research analysts and portfolio managers.

Portfolio Management and Trading Practice Risk

Risks to be Managed	*Types of Controls to Manage or Eliminate Risks*	*Potential Audit Work Step*
	• Available cash is invested overnight. ♦ Fund cash position is calculated each day and invested overnight in approved investments. ♦ Available cash in managed accounts is automatically swept into a money market fund.	• Select a sample of days and verify that portfolio management appropriately invests available cash overnight. • Select a sample of managed accounts and verify that cash positions are automatically swept into a money market fund.
Losses may be incurred as a result of inappropriate extension of credit or unnecessary exposure to market fluctuations. • Custodians and counter-parties may not be credit worthy. • Inadequate controls over excessive or inadvertent exposure to changing market prices. • Credit market exposure is not measured for fixed income funds on a complex-wide basis. (20, 21, 22, 23)	**Credit** • Initial and ongoing due diligence is performed for all broker-dealers and counter-parties. An independent group performs the due diligence. • Activity/ position limits are established for each broker-dealer and counter-party. ♦ Reports are produced daily showing any broker-dealer or counter-party exceeding their limits. ♦ An independent group monitors and follows up on exceptions. ♦ A credit committee approves limits. **Market Risk** • Policies and procedures are in place to ensure adequate diversity of credit-sensitive portfolios.	**Credit** • Ensure that all broker-dealers and counter-parties have been subjected to appropriate due diligence by a group independent from portfolio management and trading. • Ascertain that activity and position limits have been established for broker-dealers and counter-parties: ♦ Review a sample of reports showing parties that have exceeded their limits and determine that timely corrective action was taken. ♦ Confirm that the monitoring and follow-up is performed by an independent group. ♦ Verify that the credit committee has approved the established limits. **Market Risk** • Review the portfolio to determine that it complies with established diversity criteria for credit-sensitive issues.

Portfolio Management and Trading Practice Risk

Risks to be Managed	*Types of Controls to Manage or Eliminate Risks*	*Potential Audit Work Step*
	• Approved policies and procedures exist to measure, monitor and mitigate market risk. ♦ Issuer limits are established to limit portfolio over-exposure to a single issuer. ♦ Quantitative tools are used to measure and monitor market exposure. ♦ Instances where market exposure exceeds established levels are reported to portfolio management. • Credit market exposure is monitored for fixed income funds on an aggregate basis. • Fixed income investments are subjected to independent credit analysis. ♦ Credit analysts review issuers. ♦ An approved issuer list is maintained. ♦ Approved issuers are monitored on a continued basis to ensure that they continue to meet established requirements.	• Review policies and procedures employed to monitor and mitigate excessive market risk. ♦ Verify that issuer limits have been established and are monitored. ♦ Confirm that quantitative tools are employed to measure and monitor market exposure. ♦ Select a sample of instances where market exposure exceeds established levels and ascertain whether appropriate remedial action was taken. • Determine that market risk management is performed by a group independent from portfolio management and trading. • Review the process for monitoring overall credit market exposure for aggregate fixed income funds. ♦ Ensure that there are well-defined parameters for determining excessive exposure. ♦ Assess the effectiveness of escalation procedures • Ensure that fixed income investments are on the approved issuer list. ♦ Verify that an adequate credit review process supports approved issuers. ♦ Ascertain that the approved list is monitored for continued adherence to established standards.

Portfolio Management and Trading Practice Risk

Risks to be Managed	***Types of Controls to Manage or Eliminate Risks***	***Potential Audit Work Step***
Trading practice procedures and controls are inadequate exposing the organization to: • Unauthorized trading. • Not achieving best execution. • Inappropriate pricing of cross trades. • Executing trades through unapproved executing brokers. • Unrecorded trading activity. • Unallocated trade activity. • Trade errors and failed trades. • Excessive brokerage commissions. (5, 6, 7, 8, 9)	**<u>Trading Practices</u>** • Written trading policies and procedures are in place providing for: ♦ Timely, efficient and accurate processing of trades. ♦ Separation of duties between portfolio management, trade execution and trade processing. • The portfolio manager must authorize all trades. • A trading supervisor approves all trades. • All required information for trades is entered into an on-line trade entry and execution system (or a manual ticket is prepared). • A formal review of best execution (internal and external) is performed regularly (e.g., quarterly) by someone independent of portfolio management and trading. Trades executed through an affiliated broker are analyzed using the same criteria as that applied to external brokers. • Cross trades are coded for identification. ♦ Pricing of cross trades follows established guidelines (e.g., average of bid/ask). ♦ Portfolio manager reviews cross trades.	**<u>Trading Practices</u>** • Review written trading policies and procedures and ensure that they provide for: ♦ Timely, efficient and accurate processing of trades. ♦ Separation of duties between portfolio management, trade execution and trade processing. • Select a sample of trades and perform the following: ♦ Verify that the trades were authorized by the portfolio manager and approved by a trading supervisor. ♦ Determine that all required trade information was entered timely and that the trades were reflected in the portfolio records timely and accurately. ♦ Note any unusual delays between the time of the order and the time of execution. ♦ Ascertain that trades were executed at prevailing market prices. • Review procedures for evaluating best execution of trading activity: ♦ Assess the frequency of best execution review. ♦ Determine that the same criteria is used for internal and external firms. ♦ Evaluate the effectiveness of the review. ♦ Note whether there are any firms receiving an inordinate share of order flow based on the quality of their executions. ♦ Verify that the review is approved by a supervisory committee comprised of independent members.

Portfolio Management and Trading Practice Risk

Risks to be Managed	*Types of Controls to Manage or Eliminate Risks*	*Potential Audit Work Step*

	• Executing brokers must appear on the list of approved brokers.
	  ♦ A signed executing broker agreement is obtained.
	  ♦ The trade processing system flags any trades executed by a broker not on the approved list.
	• Block trades are appropriately allocated to fund/managed accounts by the end of the day.
	• Policies and procedures provide guidelines regarding trade allocation, including IPO allocations and partial fills.
	• The portfolio manager reviews trade allocations daily.
	• Trades are recorded daily, preferably through an automated trade processing system.
	• Trade blotters are reconciled to portfolio records daily to ensure completeness of processing and recording.
	• All trades are affirmed/confirmed.
	• Trade error reports are produced daily.
	  ♦ Someone independent of trade execution resolves the errors.
	  ♦ Trade error resolutions are properly documented and approved.
		• Review procedures for identifying and pricing cross trades. Select a sample of cross trades and:
		  ♦ Verify that they have been priced in accordance with the procedures and that the resulting price was fair.
		  ♦ Ascertain that the portfolio manager has reviewed the trades.
		• Select a sample of trades executed by a variety of brokers and:
		  ♦ Verify that executing brokers are on the approved list.
		  ♦ Determine whether a signed agreement has been obtained from the broker.
		  ♦ Assess the reasonability of the commissions/mark-up.
		• Review procedures for allocating block trades and IPO trades.
		  ♦ Verify that the trades were allocated fairly, in accordance with established procedures, by the end of the day.
		  ♦ For IPO fills, determine that the trade was allocated as indicated by the portfolio manager prior to the order being placed. If only a partial fill was received the fill was allocated equitably in accordance with established procedure.
		  ♦ Ascertain that the portfolio manager has reviewed the trade allocations.
		• For several days review the reconciliation of trade blotters to portfolio records and determine that any exceptions were resolved timely and accurately.

Portfolio Management and Trading Practice Risk

Risks to be Managed	*Types of Controls to Manage or Eliminate Risks*	*Potential Audit Work Step*
	• Trade errors are analyzed to identify trends or patterns indicating the need for corrective action.	• Review and test procedures for confirmation/affirmation of trades. • Select a sample of trade error reports and: ♦ Ascertain that errors were researched and resolved by someone independent of trade execution. ♦ Verify that documentation supports the resolution. ♦ Assess the timeliness of the resolution (e.g., by T+1). ♦ Determine that portfolio manager has signed off on the resolution. • Confirm that trade error reports are escalated to management in accordance with policy. • Review the analysis of trade errors (or perform an analysis of trade errors) to determine if there are any trends that would be indicative of corrective action.

Operational Risk

Risks to be Managed	***Types of Controls to Manage or Eliminate Risks***	***Potential Audit Work Step***
Insufficient operational procedures and controls may result in financial loss, damage to the organization's reputation or possible regulatory sanctions. The following specific operational activities should be considered: • Trade breaks and failed trades may not be resolved accurately or timely. • Corporate actions may not be recorded timely or accurately. • Portfolio positions and balances may not be reconciled to custodian records. • Proxies are not passed to beneficial owners or acted upon by portfolio management on a timely basis. • Outsourcing arrangements are not monitored to ensure that services are provided in accordance with contractual agreements. • Portfolio positions may not be priced accurately. • Customer statements for managed accounts are not sent periodically to the beneficial owners of the accounts. (10, 11, 12, 13, 14)	**<u>Trade Breaks/Fails</u>** • Reports of failed trades and trade breaks are received throughout the day and problem trades are monitored and resolved. • Unresolved breaks and fails are aged and reported to portfolio management each day. **<u>Corporate Actions</u>** • Utilizing external data feeds: ♦ The system automatically calculates and records dividends and interest on portfolio positions independent of the fund/account custodian. ♦ Voluntary reorganization actions are automatically identified and forwarded to portfolio management for action. **<u>Position Reconciliation</u>** • Portfolio positions and balances are reconciled to custodian records daily. ♦ Exceptions are researched and resolved timely (e.g., by end of day). ♦ Reconciliations are reviewed and approved. ♦ Write-offs and adjustments over a pre-determined amount must be approved. ♦ Unresolved differences are aged and reported to portfolio management daily.	**<u>Trade Breaks/Fails</u>** • Review and test procedures over failed trades and trade breaks: ♦ Select a sample of failed trade and trade break reports and verify that all items were resolved timely. ♦ Verify that portfolio management reviews unresolved break reports. **<u>Corporate Actions</u>** • Review the process for calculating and recording dividends and interest on portfolio positions. Select a sample of announcements and: ♦ Verify that distribution was calculated and recorded correctly. ♦ Ascertain that the distribution was reflected on the custodian's records. • For a sample of reorg actions verify that the system properly identified them and that appropriate action was taken. **<u>Position Reconciliation</u>** • Review the procedures for reconciling positions and balances to custodian records and verify that: ♦ Reconciliations are performed daily and are reviewed and approved. ♦ Reconciliations are accurate. ♦ Exceptions are resolved timely and accurately. ♦ Write-offs and adjustments are approved. ♦ Unresolved differences are aged and reported to portfolio management.

Operational Risk

Risks to be Managed	*Types of Controls to Manage or Eliminate Risks*	*Potential Audit Work Step*
	Proxy Processing • Procedures are established for processing proxies: ♦ Those that must be acted upon by customers are distributed to the beneficial owner. ♦ Those that must be acted upon internally are logged and passed on to portfolio management. The action taken is recorded in the log. **Service Providers** • Formal contracts exist for all third party. services ♦ Initial and ongoing due diligence is performed on external service providers. ♦ The services provided are monitored on a regular basis to ensure compliance with the contractual agreement. **Security Pricing** • Security prices are downloaded daily from multiple pricing vendors and used to automatically value the portfolio. • The Board or the valuation committee has approved pricing sources. • A report is produced of price variances between vendors. ♦ Items on the report are researched and a determination is made as to which price is correct. ♦ The price used is independently approved.	**Proxy Processing** • Review procedures for processing proxies, noting that proxies are either passed to customers or portfolio management for action. ♦ Select a sample of proxies related to managed accounts and to fund accounts. ♦ Verify that proxies for managed accounts are sent to the beneficial owner. ♦ Determine that proxies to be processed internally are logged and passed to portfolio management for action. ♦ Ascertain that action taken is consistent with portfolio guidelines. **Service Providers** • Identify all third party service providers, both internal and external. ♦ Verify that contracts exist for external providers and that service level agreements exist for internal service providers. ♦ Determine that initial and ongoing due diligence is performed over external service providers to ensure that they are a financially viable entity. ♦ Ascertain that there is regular monitoring of the services provided to ensure compliance with the service agreement and that the rates being charged are reasonable.

Operational Risk

Risks to be Managed	*Types of Controls to Manage or Eliminate Risks*	*Potential Audit Work Step*
	• An exception report is generated showing any position for which a price has not been received. ♦ Following established guidelines each position is researched and a price obtained. ♦ Someone independent from the person obtaining the price reviews and approves the price that is used. • An exception report is produced showing variances in pricing from the previous day that exceed pre-determined parameters and prices that have not changed (possible stale prices). ♦ The prices are reviewed to determine their accuracy. ♦ Someone independent from the person verifying the prices reviews and approves the determination of the accurate price.	**Security Pricing** • Review process used for obtaining prices from independent sources and verify: ♦ That multiple pricing sources are used when feasible. ♦ That vendors used are established industry pricing sources. ♦ That the Board or valuation committee has approved pricing sources. • Review reports of price variances reported by different pricing vendors and: ♦ Verify that a proper determination is made as to the correct price. ♦ Ascertain that the price used has been independently approved. • Review the procedures for following up on pricing exception reports. ♦ Ascertain that a report is generated showing positions for which a price has not been obtained. ♦ Select a sample of securities not priced by pricing services and verify that they are priced reasonably and that the prices used have been indepently approved. ♦ Ascertain that a report is generated showing large price changes from the previous day (and prices that have not changed). ♦ Select a sample of security price variances and verify that the price used is reasonable and has been independently approved.

Operational Risk

Risks to be Managed	Types of Controls to Manage or Eliminate Risks	Potential Audit Work Step
	• When no published price is available (except positions valued through the use of a model): ♦ A valuation committee has established a policy and procedure for valuation. ♦ Someone independent of portfolio management and trading performs the valuation. ♦ Significant price variances arising from the valuation procedure are researched and resolved. • For securities valued through the use of a model: ♦ The valuation committee approves all models. ♦ Access to the model is restricted to authorized personnel only, not including trading and portfolio management personnel. ♦ Models are reviewed periodically to ensure that they remain accurate.	♦ For the sample of security prices reviewed above, compare the prices used where possible, to last or subsequent reported sales price and investigate any large variance from the price used to value the position. • Ensure that there are documented procedures regarding the manual pricing and/or verification of pricing and that the procedures: ♦ Are performed independently of portfolio management and trading. ♦ Have been approved by the valuation committee. • Obtain a list of all securities valued through the use of a model and: ♦ Review a sample of models and ensure that they contain all relevant components and appear to be reasonable in light of the type of security. ♦ Verify that the valuation committee has approved the models being used. ♦ Ascertain that access to the models are appropriately restricted to authorized personnel, to specifically exclude portfolio management and trading employees. Determine that the models have been thoroughly tested, including assumptions, mathematical accuracy, assessment of vulnerabilities and stress testing.

Operational Risk

Risks to be Managed	*Types of Controls to Manage or Eliminate Risks*	*Potential Audit Work Step*
	• After hours trading is monitored for significant changes in security prices. ♦ A process exists for determining whether prices used for NAV calculations should be modified if significant changes occur. ♦ An independent group must approve any modifications to closing prices in those rare cases where it is deemed appropriate. • Customer statements are produced monthly or quarterly and mailed directly to account owners by an independent group.	• Verify that a process exists for monitoring after hours trading, including the independent approval of modifications made to closing prices. • Determine whether there have been any instances where closing prices were modified due to after hours trading and confirm that the prices used were approved by an independent group. • Review the customer statement process for managed accounts. ♦ Confirm that statements are processed by an independent group. ♦ Select a sample of statements and verify the information (e.g., trades, positions, income).
Risk of financial loss may exist if class action suits involving fund investments are not monitored and the necessary steps taken to receive pro rata share of judgments.	**Class Action Lawsuits** • A process exists to identify and monitor on-going class action suits involving fund investments. ♦ A periodic status report of pending class action suits is produced. ♦ When a judgment is declared the appropriate steps are taken to receive the pro rata share.	**Class Action Lawsuits** • Review the process followed to monitor class action lawsuits. ♦ Ascertain that the status of pending class action suits is reported to fund management. ♦ Verify that the necessary action is taken to receive the pro rata share.

Operational Risk

Risks to be Managed	*Types of Controls to Manage or Eliminate Risks*	*Potential Audit Work Step*
Regulatory sanctions may be imposed for failure to comply with the soft dollar safe harbor provisions (Section 28e) of the Securities Exchange Act of 1934. • Soft dollar arrangements are not approved or monitored for compliance with the safe harbor provisions of the Act. • Disclosure of soft dollar arrangements are inadequate. (19)	**Soft Dollar Agreements** • Written agreements are obtained in advance for all soft dollar arrangements. They: ♦ Must be approved by portfolio management, legal and an independent soft dollar committee. ♦ May only be used for bona fide research, execution services and market information services. • Documentation is obtained supporting the services provided under soft dollar arrangements. • A group independent of portfolio management and trading (e.g., accounting) periodically perform an analysis of the services provided under soft dollar arrangements in relation to the commissions paid. • Prospectus and client disclosures are approved by the legal and compliance departments.	**Soft Dollar Agreements** • Obtain a list of all soft dollar arrangements and, for a sample: ♦ Verify that a written agreement exists. ♦ Determine that the arrangement has been approved by portfolio management, legal and an independent soft dollar committee. ♦ Review the documentation obtained and ascertain that it the arrangement is for acceptable services under the safe harbor provisions. • Review the independent analysis performed to ensure that the services provided are commensurate with the commissions paid. • Review the disclosure of soft dollar arrangements and: ♦ Ensure that it was approved by legal and compliance. ♦ Assess whether or not it is reasonable.
Inadequate controls over security lending practices (if the fund engages in security lending) may result in financial losses. • Securities are loaned to or through an unauthorized agent bank or broker/dealer. • Collateral received is lower than the value of securities loaned.	• Securities can be loaned only through or to agent banks or broker/dealers authorized for such activity. • Collateral received in return for securities loaned is monitored to ensure that it exceeds the value of loaned securities.	• Verify that securities have been loaned only through or to approved counterparties. • See section on credit risk on page 7 for additional guidance. • Review and test procedures for monitoring collateral value. • Reference is made to the Audit Guidelines for Security Lending issued August 2002 for additional guidance.

Accounting Risk

Risks to be Managed	*Types of Controls to Manage or Eliminate Risks*	*Potential Audit Work Step*
Inadequate accounting procedures and controls may result in financial risk, regulatory violations and reputation damage. • Management fees are incorrectly calculated or not collected timely. • Fund/account expenses may not be appropriate or recorded and accurately. • Net Asset Value (NAV)/account value is not calculated correctly or reported timely and accurately. • Portfolio management and/or customers are not provided accurate and timely information about their accounts. • 12b-1 fees to be refunded to customers are not accurately calculated, accrued and paid. (15, 16, 17)	**Management Fees/Expenses** • Management fees are automatically calculated and recorded in accordance with the fund prospectus or advisory contract and reviewed by the accounting group for reasonableness. • Management fees are automatically charged to the fund/account being serviced, reducing the net asset value of the fund/account. • Expenses for fund/account services (e.g., accounting, facilities, custodian services) are automatically accrued based on service level agreements. ♦ The accounting area reviews expense accruals for reasonableness. ♦ Changes in accrual rates are made only on the basis of authorized documentation and must be approved by portfolio management. • Other fund expenses are recorded based upon approved invoices. • Variations in fund expenses are periodically analyzed and significant variances are investigated.	**Management Fees/Expenses** • Select a sample of daily management fee accruals and: ♦ Verify that they were calculated in accordance with the prospectus or advisory contract. ♦ Ascertain that the fees are reviewed for reasonableness. ♦ Confirm that the fees are automatically charged to the fund/account being serviced. ♦ Determine that any changes to the methodology for calculating management fees can only be made by someone independent from the accounting area and that the changes must be properly approved. • Review and test the process for accruing fund/account service expenses. Select a sample of service expense accruals and: ♦ Verify that they were calculated in accordance with service level agreements. ♦ Ascertain that the accruals are reviewed for reasonableness. ♦ Determine that changes in accrual rates are properly documented and have been approved by portfolio management. • Select a sample of other fund expenses and verify that they were made based upon properly approved invoices. Ascertain that variations in fund expenses are periodically analyzed and that significant variances have been investigated and adequately explained.

Accounting Risk

Risks to be Managed	*Types of Controls to Manage or Eliminate Risks*	*Potential Audit Work Step*
	NAV Calculations • NAV is automatically calculated each day in accordance with the fund prospectus. • NAV variances from the prior day that exceed pre-determined parameters are investigated to ensure accuracy. • Someone independent of the preparer reviews and approves the NAV calculation and variance analysis prior to release to the media and other interested parties. **12b-1 Refunds** • The accounting system automatically calculates and accrues the amount of 12b-1 fees to be refunded to customers in accordance with the refund policy. ♦ Accruals are periodically reviewed for reasonableness. ♦ Payment to customers is verified.	**NAV Calculations** • Review the procedures for calculating and reporting the NAV. Select a sample of NAV calculations and: ♦ Verify that the NAV was calculated in accordance with the fund prospectus. ♦ Determine the source of the components that comprise the NAV calculation (e.g., settled portfolio value, unsettled trades, cash balances, income and expense accruals and shares outstanding). ♦ For the components determined above, verify the accuracy of the figures used in the NAV calculation. ♦ Determine that the calculation was completed timely. • Ensure that a reasonableness check of the daily NAV is performed by comparison to the prior day's NAV. • Verify that someone independent of the preparer reviews and approves the NAV calculation and variance analysis prior to releasing the NAV to interested parties. **12b-1 Refunds** • Review the policy for refunding 12b-1 fees to customers. ♦ Determine that the accrual and payment is periodically reviewed. ♦ Select a sample of customers and verify that they have received the proper refund of 12b-1 fees.

II B. SEGREGATION OF DUTIES CHECKLIST

Introduction

Adequate segregation of duties reduces the likelihood that errors (intentional or unintentional) will not be prevented and remain undetected. The basic idea underlying segregation of duties is that no one employee or group of employees should be in a position both to perpetrate and to conceal errors or irregularities in the normal course of their duties. Additionally, errors may occur due to inadequate supervision of employee activity. In general, the principal incompatible duties to be segregated are: authorization, custody of assets, and recording or reporting of transactions. In addition, the risk management function as well as other oversight functions (Controllers, Compliance, Legal, Credit) should be separated from the functions that are originating risk itself and the processing of a transaction.

A practical method for using this checklist is to list the names of individuals responsible for particular functions. Review the checklist for individuals whose names are listed more than once and then make a determination whether that represents a potential lack of segregation of duties. Also consider whether individuals are performing incompatible duties. Once an individual is identified as performing incompatible duties, all duties performed by that individual should be challenged as to whether the effectiveness of those duties is reduced or eliminated by the lack of segregation of duties identified. Larger organizations may find it sufficient to list only the department performing each of these duties or functional job titles, rather than the names of individuals. Those companies could then evaluate whether any departments were performing incompatible duties.

Keep in mind that not all instances where an individual performs more than one function represent a lack of segregation of duties. In addition, it is important to remember that there is a possibility of a lack of segregation of duties within the same category. Consequently, completion of this checklist is intended to highlight potentially conflicting duties, not to be the only method of identifying all such conflicting duties. The segregation of duties checklist is located on the following page.

SEGREGATION OF DUTIES CHECKLIST

Portfolio Management and Trading

Who makes investment decisions? ____________

Who reviews investment decisions? ____________

Who calculates fund/account performance? ____________

Who reviews/approves calculations of fund/account performance? ____________

Who authorizes trades? ____________

Who executes trades? ____________

Who approves trades? ____________

Who performs reviews of best execution? ____________

Who records trade allocations? ____________

Who reviews trade allocations? ____________

Who reconciles trading records to portfolio records? ____________

Who resolves trade errors? ____________

Operations

Who calculates and records corporate actions? ____________

Who balances portfolio records to custodian records? ____________

Who reviews reconciliations of portfolio records to custodian records? ____________

Who makes write-offs and adjustments? ____________

Who resolves differences between portfolio records and custodian records? ____________

Who resolves security price discrepancies? ____________

Who approves resolution of price discrepancies? ____________

Who develops security pricing models? ____________

Who reviews/approves security pricing models? ____________

Accounting

Who records fees and expenses? ____________

Who reviews/approves fees and expenses? ____________

Who calculates NAV? ____________

Who reviews/approves NAV calculations? ____________

Credit and Market Risk Management and Regulatory

Who performs due diligence over counter-parties and service providers? ____________

Who establishes activity and position limits? ____________

Who approves activity and position limits? ____________

Who monitors activity and position limits? ____________

Who establishes issuer limits? ____________

Who approves issuer limits? ____________

Who monitors for exceptions to issuer limits? ____________

Who establishes soft dollar arrangements? ____________

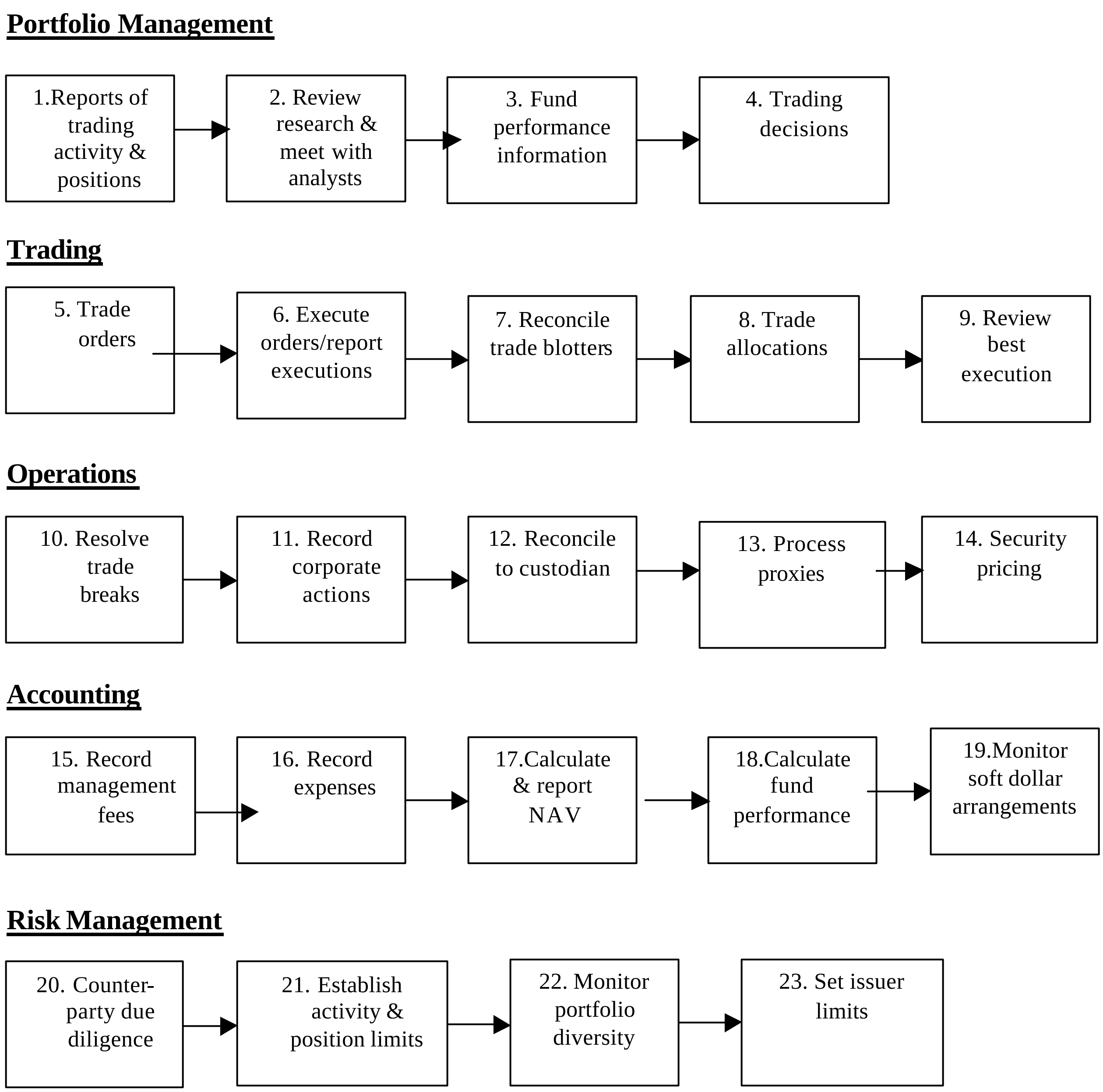
Who approves soft dollar arrangements? ____________

Who monitors soft dollar arrangements? ____________

III. PROCESS FLOWCHART

The following flowchart illustrates some of the typical activities that take place in an investment management process. Definitions for the individual process steps are included below. Such definitions are numbered in order to cross-reference with the appropriate process steps.

Investment Management Process Diagram Flowchart



Definition of Process Steps

1. Among other reports, the portfolio managers are provided with daily reports of trading activity and positions.
2. Portfolio managers review research reports and meet with research analysts for information that will help them devise investment strategy.
3. Fund performance information is provided daily.
4. Portfolio managers make trading decisions and either place the orders directly with executing brokers or with an order management group whose responsibility is to manage the order flow.
5. Executing brokers receive the orders (may be electronically, by telephone or fax). Executing brokers may be either affiliated or non-affiliated entities.
6. The order is completed in either one execution or in a series of executions. When multiple executions are needed to complete a single order an average price is calculated based on the total number of shares and the aggregate purchase/sales price.
7. Trade blotters are reconciled to portfolio records each day to ensure that all trades have been captured/recorded accurately. Differences must be researched and resolved immediately.
8. For trades executed on behalf of multiple accounts/funds an allocation must be made of the trade, breaking it down among the particular accounts/funds in order to ensure proper recording of the transaction.
9. A periodic review is performed to assess the quality of execution of each executing broker.
10. During the day trade breaks are resolved.
11. Corporate actions are identified through the use of corporate announcement services. Actions are recorded automatically to the account portfolio.
12. Portfolio records are reconciled to custodian records and differences are researched and resolved. Preferably the reconciliation is performed daily.
13. Proxies are received and either distributed to the beneficial owner of the account or to portfolio management.
14. Utilizing external pricing vendors, the securities are priced daily. Pricing discrepancies are researched and resolved.
15. The accounting group records management fees. In most cases fees are recorded automatically.
16. Fund expenses (e.g., brokerage fees, custodian fees) are also recorded, preferably through an automated process. Other non-recurring type expenses are recorded and paid based on approved invoices.
17. The NAV is calculated daily, reviewed, approved and then released to the media and other interested parties.
18. Fund performance is calculated and distributed to portfolio management and other interested parties.
19. Soft dollar arrangements are monitored to ensure that they comply with regulatory safe harbor provisions and that the services provided are commensurate with the commissions paid.
20. All counter-parties are subjected to appropriate due diligence to ensure their financial stability.
21. Position and activity limits are established for all counter-parties. These limits are monitored and remedial action is taken when the limits are exceeded.
22. Portfolio diversity is monitored especially with respect to credit sensitive portfolios.
23. Issuer limits are set and monitored as well to minimize over-investment in one issuer.