



GRANITE ASSET MANAGEMENT  
Alternative Investments

## Investment Process

Managed Futures Portfolios

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## Portfolio Construction Guidelines

- A. Define client mandates.
- B. Define targeted returns and volatility tolerances.
- C. Determine minimum/maximum number of CTAs in portfolio.
- D. Determine allocation size to CTAs.
  - Review portfolio's starting assets/escrow, growth projections, and trading start date.
- E. Outline targeted sector exposure limits.
- F. Evaluate the level of diversification among managers and the potential risk of high correlation.
  - Conduct performance correlation analysis.
- G. Evaluate diversification and assure compliance with regulatory and/or ERISA guidelines.
  - Document qualitative analysis among CTAs' systems, markets traded and trading methodologies.
- H. Determine final manager selection and establish parameters for portfolio monitoring and risk analysis.
  - Review historical performance of potential CTAs.
- I. Establish parameters for portfolio monitoring and risk analysis.
  - Review CTA program historical margin ranges.
- J. Evaluate favorable investment starting points.
  - Review manager regression charts.

### Example Allocation Table

CTA	Role	Min.	Max.	Comments
CTA 1	Core	40%	60%	Role is very high absolute returns over 24-month periods.
CTA 2	Satellite	5%	15%	Role is absolute returns over 12-month periods and dampening of CTA 1 risk.
CTA 3	Satellite	5%	15%	Role is absolute returns over 12-month periods and dampening of CTA 1 risk.
CTA 4	Satellite	5%	15%	Role is absolute returns over 12-month periods and dampening of CTA 1 risk.
CTA 5	Satellite	5%	15%	Role is absolute returns over 12-month periods and dampening of CTA 1 risk.
CTA 6	Satellite	5%	10%	Role is absolute returns over 12-month periods, exposure to commodities, and dampening of CTA 1 risk.
CTA 7	Satellite	5%	10%	Role is absolute returns over 12-month periods, exposure to commodities, and dampening of CTA 1 risk.



## Standard Criteria for Including a CTA

### A. Quantitative Criteria

- In depth correlation analysis.
- Regressions charts – 6 and 12 month.
- Identification and understanding of differences of alpha creation among the CTAs considered with risk measured against performance.
- Must show good peer group performance persistence as defined by:  
1) markets, 2) correlation, 3) risk.
- Will operate within defined normalized risk targets.

### B. Qualitative Criteria

- Investment edge must be clearly definable and present.
- Qualitative identification of correlation attributes of CTAs and analysis of the strategies employed.
- Investment philosophy including risk controls.
- Industry network feedback.
- Manager information:
  - a. education,
  - b. work experience.
  - c. NFA check list on principals,
  - d. key member personalities.

### C. Documentation

- Due diligence questionnaire .
- Disclosure document.
- Monthly rate of return figures.
- Daily rate of return figures.
- 2-Page Stark & Company performance summary, including fee structure and margin usage.
- NFA check list on company.
- Completed background checks.
- On site due diligence visit.



## Investment Committee Procedures

An investment committee is formed, and meetings are documented. To add a new manager, the vote must be unanimous.

The investment committee reviews the following:

- Quantitative and qualitative information and documentation.
- Current managers:
  - a. underperforming managers and/or managers of concern,
  - b. style drift,
  - c. regression charts,
  - d. current market and technical impact on managers and underlying portfolios,
  - e. allocation amounts, including leverage.

### Portfolio Level - Risk Limits (Example)

	Portfolio
Annualized Standard Deviation Limit	16%
Drawdown Limit	18%
Margin to Equity Limit	20%

### CTA Level - Risk Limits (Example)

Each CTA/investment will be reviewed as follows:

- A. Define CTA's normalized risk targets. If breached, a documented call will be made to CTA, and the Investment Committee will determine if action is necessary (i.e. lower trading level or closing the account).

	CTA 1	CTA 2	CTA 3	CTA 4	CTA 5	CTA 6	CTA 7
Annualized Standard Deviation Limit	20%	20%	22%	20%	20%	25%	22%
Drawdown Limit	26%	20%	21%	15%	15%	21%	15%
Margin to Equity Limit	25%	27%	30%	18%	10%	10%	40%



## Investment Committee Procedures (Continued)

- B. CTA defined cutout points:
  - i. “Probation Level”/”Manager of Concern” – When CTA reaches 70% of maximum drawdown, the CTA becomes a “manager of concern”. This performance will be “flagged” on the “Risk Flag Report”. The CTA must provide a written description of losses.
  - ii. Account Closure – As a general guideline, if the maximum drawdown is exceeded, an account closure will be considered. However, it is possible that the Investment Committee will decide to keep an account open after the maximum drawdown is reached if conditions warrant.
- C. Detection and review of anomalies.
- D. Analysis of current positions and ongoing monitoring.
  - i. Review daily, weekly and monthly reports to determine if variances exist to prevent breach of limits as designated above.
- E. Document and address breach of limits.
  - i. If limits are breached, trading may be restricted or terminated for an individual trader. If so, management will determine how to best handle the portfolio’s positions given the current market.
- F. Check that commissions are coded correctly upon account opening.
- G. Real time position monitoring using using account tracking systems or platforms.
- H. Review of daily FCM equity runs for discrepancies/errors.
- I. Check change in account value and daily profit/loss.
- J. Check daily margin levels.
- K. Ongoing due diligence of CTAs:
  - i. quarterly calls,
  - ii. annual on-site visits.



## **Standard Criteria for Terminating a CTA**

These criteria are generally monitored as per end-of-day. However, real-time intra-day monitoring may also occur as available.

- A. Violation of style drift.
- B. Violates statistical red flags (end-of-day report).
- C. Manager encounters unforeseen business risk.
- D. Manager grows assets too rapidly or beyond predetermined thresholds or it has been determined that asset growth has diluted returns.
- E. Violation of hard stops:
  - a. annualized volatility (30 day stdv) x sqrt (250),
  - b. maximum margin usage,
  - c. maximum drawdown.
- F. Investment committee votes on termination.
- G. Termination of CTA as per procedures.

## **Trading Level Changes**

At each investment committee meeting the following is reviewed:

- Current trading levels.
- Performance.
- New investments, additions, and redemptions.

As per the guidelines outlined above, the Investment Committee determines if it is appropriate to increase or decrease the trading level of one or more of the accounts/investments. It is noted that a CTA's trading level may be decreased not only based on poor performance, but also in the event that monies are needed to open an account with an additional CTA.



## Risk Flag Report Summary

The report looks at a combination of performance and risk. On the performance side, the report analyzes a manager's current performance with its available daily history.

This is accomplished in two ways:

First, the current rolling 1, 5, 21, 63 and 252 day rolling periods are compared versus all available rolling periods to determine where current performance rests with historical performance for each manager.

Second, the current drawdown for the manager is compared against the trader's maximum drawdown. The scale is inverted so that 100% is equivalent to a "high watermark" of performance and a value of 0% would mean that the manager is experiencing its worst drawdown.

In addition, the current drawdown is compared versus a statistically significant 2 X Annualized Standard Deviation figure. This is employed to determine where the current drawdown rests against a statistical "point of no return" figure.

The report includes risk flags. There is a grid with a comparison of the current 5, 21, 63 and 252-day rolling standard deviations compared against all rolling standard deviations for the manager over the same periods.

The Exposure column measures the current exposure stress test (all positions stressed one standard deviation) versus an arbitrarily chosen 5% scale. This scale ranges from 0% to 5%.

There is a 95% Diversified VaR column, also with the scale range of 0% to 5%.

There is an Undiversified VaR column which showing the manager's Undiversified VaR on a scale from 0% to 8%.

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Notes: For CTA and Portfolio level risk, this formula was used:  
 $\text{Annualized volatility (30 day stdev)} \times \sqrt{250}$

These numbers are guidelines. The General Partner/Investment Manager reserves the right to change these numbers as necessary.

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