

to utilize synchronous data storage technologies, which can limit the extent of geographic separation between primary and back-up sites. A number of commenters note that a recovery time objective of four hours is unrealistic unless core clearing and settlement organizations and the telecommunications infrastructure are operating.<sup>2</sup> Some commenters suggest that recovery and resumption time objectives should vary by type of market. Other commenters note that further guidance on the definitions of an "event" and "end-of-business day" is needed to help ensure meaningful recovery and resumption time objectives.

A number of commenters support the concept of establishing back-up sites for operations and data centers that do not rely on the same infrastructure and other risk elements as primary sites and note that such diversification of risk is a long-standing principle of business continuity planning for financial firms. Most commenters oppose establishing any minimum distance requirement between primary and back-up facilities, citing the need for sufficient flexibility to manage costs effectively and allow for technological improvements. A few commenters believe that establishing minimum separation is appropriate and achievable. A number of commenters express concern that out-of-region back-up sites, including those of third-party service providers, often are geographically concentrated, creating additional risk in the event of a targeted attack or wide-scale disruption affecting those areas. Some commenters ask for additional guidance on how to address various infrastructure components, such as water supply sources. A few commenters indicate that they are exploring overseas locations as part of their recovery and resumption solutions and ask for some assurances that domestic and foreign financial authorities will permit such arrangements.

Commenters note that firms should be permitted to address critical staffing

needs sufficient to recover from a wide-scale disruption, but should not be required to maintain a separate redundant staff at their back-up locations, which would be costly and inefficient. Others advocate maintaining a back-up site with staff able to perform critical clearing and settlement activities routinely (through two or more active production sites) or on an emergency basis (e.g., through cross-training staff). Commenters state that permitting firms to adopt a risk-based approach to planning geographically dispersed back-up arrangements would allow institutions to focus on those scenarios that pose the greatest threat and manage labor needs more effectively.

Most commenters agree that routine use or testing of back-up facilities is necessary and beneficial to ensure financial system viability. They also suggest that testing should be "end-to-end" involving telecommunication firms, third-party service providers, and securities exchanges.

A majority of commenters state that plans to meet sound practices could be developed within a year after the agencies issue their final views. There is general consensus that sound practices can be implemented over a relatively short (two to three year) time period, if the agencies provide sufficient flexibility to accommodate the unique risk profile and planning and investment cycles of each institution. Commenters note that extending implementation schedules would help to mitigate the costs of building greater resilience into business continuity arrangements, although there was also recognition that the post-September 11 risk environment requires that achievement of the sound practices needs to be accomplished within a reasonably short time frame by peer firms. Some commenters warn that strict application of the sound practices or establishment of minimum distance and staffing requirements could require firms to bear excessive costs with the result that some might exit particular markets, leading to further concentration, decreased liquidity, and higher overall costs for participants in those markets. Several commenters expressed concern that the sound practices might result in significant employment losses and other negative impacts on the economy and tax base of the New York City metropolitan area. Virtually all commenters state that the core clearing and settlement organizations should establish more aggressive implementation timetables than other firms. Commenters also recognize that firms should set implementation benchmarks in their

plans to assess progress. Some commenters assert that the incremental cost of achieving the sound practices should be subsidized, all or in part, by the government.

The agencies have incorporated many of the suggestions that were made by the commenters. The revised paper is more succinct, and generally provides more flexibility to firms in managing geographic diversity of back-up facilities, staffing arrangements, and cost-benefit considerations. It also provides more specificity as to the scope of application of the sound practices as well as the implementation guidelines. No specific mileage requirements or technology solutions are mandated. Accordingly, the agencies are issuing this final version of the interagency paper on sound practices to strengthen the resilience of the U.S. financial system.

### **Interagency Paper on Sound Practices To Strengthen the Resilience of the U.S. Financial System**

#### *Introduction and Background*

The Federal Reserve, the Office of the Comptroller of the Currency, and the Securities and Exchange Commission (the agencies) are issuing this *Interagency Paper on Sound Practices to Strengthen the Resilience of the U.S. Financial System* to advise financial institutions on steps necessary to protect the financial system in light of the new risks posed by the post-September 11 environment. The sound practices build upon long-standing principles of business continuity planning and reflect actions identified by industry members that will strengthen the overall resilience of the U.S. financial system in the event of a wide-scale disruption.

The agencies have identified broad industry consensus on three business continuity objectives that have special importance after September 11 for all financial firms. The agencies also have identified sound practices that focus on minimizing the immediate systemic effects of a wide-scale disruption on critical financial markets. The sound practices focus on the appropriate back-up capacity necessary for recovery and resumption of clearance and settlement activities for material open transactions in wholesale financial markets. They do not address the recovery or resumption of trading operations or retail financial services. The agencies are not recommending that firms move their primary offices, primary operating sites, or primary data centers out of metropolitan locations, and understand that there are important business and

<sup>2</sup> Many commenters state that the recovery of financial systems can only be achieved if the telecommunications infrastructure is up and running across the nation. Firms identify a number of industry efforts to explore common infrastructure issues and possible solutions to ensure diversity of circuit routing and other reliability issues. Commenters raising this issue ask the agencies to continue to raise the issue of telecommunications infrastructure resilience with federal and state agencies, including the Federal Communications Commission, the National Security Telecommunications Advisory Committee and the Department of Homeland Security. The agencies are taking numerous actions to help direct attention to improving the resilience of the telecommunications infrastructure.