and enforceability of institutional controls to be applied during a remedial period that has been extended to take advantage of natural flushing. EPA recognizes that some institutional controls, such as advisories or signs, although desirable as secondary measures, are not appropriate as primary measures for preventing human exposure to contaminated water. For this reason, the regulations permit institutional controls to be used in place of remediation only when DOE is able to ensure their effectiveness will be maintained during their use. The standards require that institutional controls "* * * effectively protect public health and the environment and satisfy beneficial uses of groundwater * * *" during their period of application. In this regard, we note that tribal, state, and local governments can also play a key role in assuring the effectiveness of institutional controls. In some cases this may be effected through changes in tribal, state, or local laws to ensure the enforceability of institutional controls by the administrative or judicial branches of government entities. One State indicated that some institutional controls, such as deed restrictions, should not be viewed as restrictions since they do not empower any agency to prohibit access to contaminated water. However, judicial enforcement of deed restrictions can be as effective as administrative enforcement of other institutional controls by a government agency. Therefore, deed restrictions are an acceptable institutional control if they are enforceable by a court with jurisdiction over the site at which they are used, and if the implementing agency will take appropriate steps to assure their effective application.

Some commenters expressed the view that, if institutional controls are used, this use must be restricted to the 7-year period for remediation authorized in Section 112(a) of UMTRCA. EPA believes that it is not possible to achieve cleanup of groundwater at all of the sites within 7 years, no matter what reclamation scheme is employed. It is therefore necessary to consider time frames other than that originally contemplated in UMTRCA for completion of remedial actions. Congress, in granting an extension of the authorization in Section 112(a) of UMTRCA for disposal and cleanup actions from March 5, 1990 to September 30, 1994, provided further * * that the authority of the Secretary to perform groundwater restoration activities under this title is without limitation." (Uranium Mill

Tailings Remedial Action Amendments Act of 1988 (42 U.S.C. 7916)). In addition, under Section 104(f)(2) of the Act (42 U.S.C. 7919(f)(2)), the NRC may require maintenance of corrective and institutional measures that are already in place at the time authorization under Section 112(a) expires, without time limitation.

The provisions for use of natural flushing when appropriate institutional controls are in place are consistent with existing regulations under Title II, although they are not explicit in those regulations. In cases where groundwater contamination is detected, the Title II regulations specify when corrective actions must begin, but do not specify a time when corrective actions must be completed. These provisions under Title I provide additional guidance on the length of time over which institutional control may reasonably be relied upon, and further guidance on the kinds of institutional provisions that would be appropriate at any uranium tailings site. In addition, use of institutional controls is not limited to extended remedial periods. Interim institutional controls may also be used to protect public health or the environment, when DOE finds them necessary and appropriate, prior to commencing active remedial action, during active remedial action, or during implementation of other compliance strategies.

Other comments addressed a variety of matters, including the monitoring of institutional controls, the relationship between long-term maintenance responsibilities and the 100-year limit on use of institutional controls, types of institutional controls, longer or shorter extended remedial periods, and the legality of institutional controls under UMTRCA. These matters are addressed in the Response to Comments, published separately as a background document.

Point of Compliance

Several commenters objected to the definition of the point of compliance in the disposal standards (subpart A), and suggested that it be defined at some finite distance from the edge of the remediated tailings instead of at the downgradient edge of the pile, as in regulations established under RCRA. They indicated that the remediated tailings may seep a minor amount of contamination, which may cause the standards to be exceeded at the proposed point of compliance, under conditions where there would be no detriment to human health or the environment at small distances away. This difficulty can be solved, as proposed, by moving the point of

compliance or, alternatively, by granting an ACL if it can be shown that such levels of contamination will not impair human health or damage the environment. We have concluded the latter is more in keeping with the regulations established under RCRA. The standards provide that DOE may request an ACL under such circumstances and NRC may approve such a request if contamination of groundwater will not endanger human health or degrade the environment. It is our view that this requirement would usually be satisfied at any site where the minor seepage noted above is not projected to extend beyond a few hundred meters from the waste management area and will not extend outside the site boundary. This could occur under a variety of circumstances where important roles are played by attenuation, dilution, or by vapor transport in unsaturated zones.

Under the cleanup standard (subpart B), the DOE is required to characterize the extent of contamination from the site and clean it up wherever it exceeds the standards. This characterization and confirmation of cleanup will be carried out through the monitoring program established under § 192.12(c)(3). Although the DOE is not required to clean up preexisting contamination that is located beneath a remediated tailings pile, they are required to consider this contamination when developing their plan(s) for remedial action and will have to clean up any contamination that will migrate from beneath the pile and exceed the concentration limits established in accordance with § 192.02(c)(3).

Alternate Concentration Limits

Several reviewers commented that EPA should not, for a variety of reasons, delegate the responsibility for approving ACLs to the NRC. Others stated that the standards were so strict that ACLs would be needed at every site. EPA considered a number of approaches to the provision for granting ACLs. These included deleting the ACL provision, establishing (by regulation) generic criteria for ACLs to be implemented by NRC, providing for some form of EPA review or oversight of ACL implementation, and (as in the proposed regulation) providing for no EPA role in setting ACLs at individual sites.

EPA has decided not to delete the ACL provision because it is clearly needed, if for no other reason than to deal with the possibilities of unavoidable minor projected seepage over the extremely long-term design life (1000 years) of the disposal required, in most cases, by these standards, and of