One comment stated that packages that are subjected to the crush test should not also be subjected to the 30foot free drop test, as required in the proposed rule. Instead, consistent with IAEA, the crush test should be in lieu of the 30-foot free drop test.

NRC believes that the crush test and the free drop test impart different types of loadings onto the package. Having sufficient crush resistance for the crush test does not ensure the adequacy of the package under the inertial loadings that occur during the 30-foot drop tests. NRC believes that it is important for packages to have resistance to impact and that the crush test should not be a substitute for the impact test.

One comment stated that a crush scenario is not likely during "dedicated" shipments because heavy loads are not placed above the shipment at any time during transport. The comment questioned the applicability of the test for dedicated shipments, and requested that at least an engineering evaluation be allowed as an alternative to a physical test. NRC has made it clear (see § 71.41) that appropriate analyses may be used to demonstrate the ability of a package to meet crush test conditions.

Section 71.75 Qualifications of Special Form Radioactive Material

One comment indicates that changes in § 71.75(a) from the current rule have changed the concept of special form from being a provision for special properties of the radioactive material contents of the package to being a provision for special properties of the package—a change from qualifying a "special form source" to qualifying a

NRC regrets the confusion, but intended no substantive change to the concept of special form. Special form criteria in this final rule have been brought closer to those of DOT, but still without any basic changes.

One comment noted that the reference in § 71.75(e) [§ 71.75(d), in the final rule], to a standard of the International Standard Organization (ISO) is vague and should be made more specific.

Although the ISO standard could be written in all its detail in Part 71, rather than simply referenced there, most comments over the years have encouraged NRC to have less repetition and more simple references to other requirements.

Section 71.83 Assumptions as to Unknown Properties

One comment pointed out an error in line 7 of § 71.83, where the proposed rule referred to "known properties", where it should have referred to "unknown properties." That error has been corrected.

Section 71.85 Preliminary Determinations

One comment recommended that the term "durable" in the context of "durably mark the packaging," as in §71.85, be defined in terms of the conditions that the markings on the packaging must be able to withstand. When developing its regulations, NRC must decide at what level of detail they are to be written. Sometimes that level of detail is changed as a result of experience if a widespread misuse of a standard becomes known because of a lack of detail. NRC is not aware of any problem with the term "durably," even though it has been used since 1968 in the preliminary determinations section. In the absence of a significant problem, NRC prefers to leave the term as is.

Section 71.87 Routine Determinations

One comment recommended that NRC's Table V "Removable External Radioactive Contamination Wipe Limits," be used by DOT in place of its Table 11. NRC notes that the only significant difference between the two tables is that the term "low toxicity alpha emitters" is replaced by its definition in the NRC table. The NRC final rule simply refers to the DOT requirement (49 CFR 173.443) for maximum permissible contamination limits.

Section 71.88 Air Transport of Plutonium

One comment recommended that the forward tie-down specification of 9 g detailed in §71.88(c)(2) be reduced to 1.5 g for plutonium packages transported on a Boeing 747 aircraft. The reason for this recommendation has to do with the 14 CFR 25.561 regulatory requirement of the Federal Aviation Administration (FAA), that the supporting structure of an airplane must be designed to restrain, up to specified inertial forces, including 9–g in the forward direction, ''* * * each item of mass that could injure an occupant if it came loose in a minor crash landing." NRC, in prescribing tie-down requirements for plutonium packages in aircraft, took note of the supporting structure requirements of the FAA and required a 9-g tie-down system for the package on the main deck of the aircraft. The Boeing 747 cargo aircraft, however, with no passengers and the cockpit located above the main deck, is not subject to the requirements of 14 CFR 25.561 because there are no occupants to injure if "* * * the package came

loose in a minor crash landing." Thus, the Boeing 747 "Weight and Balance Manual," DG–13700, shows a load factor of 1.5 g in the forward direction.

The purpose of the NRC tie-down requirement was not to protect occupants of the aircraft from cargo that has come loose in a minor crash landing. Therefore, the comparison with the FAA supporting structure requirement is not germane. The purpose of the NRC requirement was to protect the plutonium package from the uncontrolled potential for damage inherent in having the package unrestrained in a crash landing.

Paragraph (c) of § 71.88 proposed a requirement that the licensee make special arrangements with the carrier on where to place the plutonium cargo in the aircraft, how to tie it down, and what restrictions are to be placed on other cargo. Recognizing that these restrictions would be more appropriately placed directly on the carrier rather than through the shipper, the DOT has placed these restrictions in its air carrier regulations (§ 175.704 of 49 CFR Part 175, "Carriage By Aircraft.") These regulations are now referenced in § 71.88.

Section 71.95 Reports

All three public comments on this section were directed at the newly proposed provisions of paragraph (c), which require a 30-day report of "* * * instances in which the conditions of approval in the certificate of compliance were not observed in making a shipment."

One comment requested clarification whether § 71.95(c) applies to shippers or receivers.

The scope of Part 71 (§ 71.0(c)) makes the regulation applicable only to shippers of radioactive material. Therefore, § 71.95(c) applies only to shippers of radioactive material. However, shipment deficiency may be detected by the receiver of the shipment. If the receiver reports that deficiency to the shipper, the shipper is obligated to report it to NRC. Further, note that 10 CFR Part 21, "Reporting of Defects and Noncompliance", is applicable to receiving facilities.

The other two comments dealt with the substance of the event that would prompt the report. One suggested the regulation be more specific on conditions that would require a report. The second comment suggested that the report include the consequences of the deficient shipment such as radioactive contamination, a loosened sealing cap, etc.

Although both of these suggestions have merit, neither has been