ure of each filling, including all results of each test for which test results are requested by the Director, Bureau of Biologics.

(ii) A total of no less than two 25-milliliter volumes, in a frozen state (−60° C), of preclarification bulk measles component containing no preservative or adjuvant.

(iii) A frozen 5-milliliter sample of the smallpox component prior to any dilution or filtration.

(iv) A sample consisting of no less than sixteen 10-dose vials, or twelve 5-dose vials, or ten 50-dose vials of vaccine in final labeled containers, plus sufficient diluent in final labeled containers to reconstitute the vaccine.

(2) In addition to the requirements of paragraph (e)(1) of this section, whenever a new measles production seed lot is introduced, or whenever the source of measles cell culture subtrate must be reestablished and recertified, samples consisting of no less than 100 milliliters in 10-milliliter volumes, in a frozen state (−60° C), of the bulk measles component after clarification and containing stabilizer but no preservative or adjuvant, taken from each of 5 consecutive lots of the bulk vaccine.

(3) The product shall not be issued by the manufacturer until written notification of official release of each filling of each lot is received from the Director, Bureau of Biologics.

[38 FR 32068, Nov. 20, 1973, as amended at 40 FR 6779, Feb. 14, 1975; 41 FR 10430, Mar. 11, 1975; 42 FR 27582, May 31, 1977]

630.87 Equivalent methods.

Modification of any particular manufacturing method or process or the conditions under which it is conducted from those set forth in the additional standards relating to Measles-Smallpox Vaccine, Live (§§ 630.80 to 630.86, inclusive), shall be permitted whenever the manufacturer presents evidence that demonstrates the modification will provide assurances of the safety, purity, and potency of the vaccine that are equal to or greater than the assurances provided by such standards, and the Commissioner of Food and Drugs so finds and makes such finding a matter of official record.

PART 640—ADDITIONAL STANDARDS FOR HUMAN BLOOD AND BLOOD PRODUCTS

Subpart A—Whole Blood (Human)

Subpart B—Red Blood Cells (Human)

Subpart C—Platelet Concentrate (Human)

Subpart D—Single Donor Plasma (Human)

Subparts E—[Reserved]

Subpart F—Cryoprecipitated Antihemophilic Factor (Human)

Subpart G—Source Plasma (Human)

tions are being made, whole blood is being collected, and red blood cells are being returned to the donor.

§ 640.63 Suitability of donor.

(a) *Method of determining.* The suitability of a donor for Source Plasma (Human) shall be determined by a qualified licensed physician or by persons under his supervision and trained in determining donor suitability. Such determination shall be made on the day of collection from the donor by means of a medical history, tests, and such physical examination as appears necessary to the qualified licensed physician.

(b) *Initial medical examinations.* (1) Each donor shall be examined by a qualified licensed physician on the day of the first donation or no more than 1 week before the first donation and at subsequent intervals of no longer than 1 year.

(2) If a donor is to be immunized for the production of high titer plasma, the initial medical examination shall be performed within no more than 1 week before the first immunization injection. The medical examination for plasmapheresis need not be repeated if the first donation occurs within 21 days after the first injection.

(3) Each donor shall be certified to be in good health by the examining physician. The certification of good health shall be on a form supplied by the licensed establishment and shall indicate that the certification applies to the suitability of the individual to be a plasmapheresis donor and, when applicable, an immunized donor.

(c) *Qualification of donor.* Donors shall be in good health on the day of donation, as indicated in part by:

(1) Normal temperature;

(2) Demonstration that systolic and diastolic blood pressures are within normal limits, unless the examining physician is satisfied that an individual with blood pressures outside these limits is an otherwise qualified donor under the provisions of this section;

(3) A blood hemoglobin level of no less than 12.5 grams of hemoglobin per 100 milliliters of blood;

(4) A normal pulse rate;

(5) A total serum protein of no less than 6.0 grams per 100 milliliters of serum;

(6) Weight, which shall be at least 110 pounds;

(7) Freedom from acute respiratory diseases;

(8) Freedom from any infectious skin disease at the site of phlebotomy and from any such disease generalized to such an extent as to create a risk of contamination of the plasma;

(9) Freedom from any disease, other than malaria, transmissible by blood transfusion, insofar as can be determined by history and examinations indicated in this section;

(10) Freedom of the arms and forearms from skin punctures or scars indicative of addiction to self-injected narcotics;

(11) Freedom from a history of viral hepatitis;

(12) Freedom from a history of close contact within six months of donation with an individual having viral hepatitis;

(13) Freedom from a history of having received, within six months, human blood or any derivative of human blood which the Food and Drug Administration has advised the licensed establishment is a possible source of viral hepatitis, except for specific immunization performed in accordance with § 640.66 of this part.

(d) *General.* Any donor who, in the opinion of the interviewer, appears to be under the influence of any drug, alcohol, or for any reason does not appear to be providing reliable answers to medical history questions, shall not be considered a suitable donor.

(e) *Failure to return red blood cells.* Any donor who has not had the red blood cells returned from a unit of blood collected during a plasmapheresis procedure or who has been a donor of a unit of whole blood shall not be subjected to plasmapheresis for a period of 8 weeks, unless:

(1) The donor has been examined by a qualified licensed physician and certified by the physician to be acceptable for further plasmapheresis before expiration of the 8-week period;

(2) The donor possesses an antibody that is (i) transitory, (ii) of a highly unusual or infrequent specificity, or (iii) of an unusually high titer; and

(3) The special characteristics of the antibody and the need for plasmapheresing the donor are documented.

[38 FR 32089, Nov. 20, 1973, as amended at 41 FR 10768, Mar. 12, 1976; 43 FR 9805, Mar. 10, 1978; 43 FR 12311, Mar. 24, 1978]

§ 640.64 Collection of blood for Source Plasma (Human).

(a) *Supervision.* All blood for the collection of Source Plasma (Human) shall be drawn from the donor by a qualified licensed physician or by persons under his supervision trained in the procedure.

(b) *Blood containers.* Blood containers and donor sets shall be pyrogen-free, sterile and identified by lot number. The amount of anticoagulant required for the quantity of blood to be collected shall be in the blood container when it is sterilized.

(c) *The anticoagulant solution.* The anticoagulant solution shall be sterile and pyrogen-free. One of the following formulas shall be used in the indicated volumes, except that a different formula may be used for plasma for manufacture into noninjectable products if prior written approval is obtained from the Director of the Bureau of Biologics at the time of licensing or in the form of an amendment to the Source Plasma (Human) product license.

(1) *Anticoagulant citrate dextrose solution (ACD).*

Tri-sodium citrate ($Na_3C_6H_5O_7 \cdot 2H_2O$).	22.0 grams
Citric Acid ($C_6H_8O_7 \cdot H_2O$	8.0 grams
Dextrose ($C_6H_{12}O_6 \cdot H_2O$).....	24.5 grams
Water for injection (U.S.P.) to make.	1,000 milliliters
Volume per 100 milliliters blood.	15 milliliters

(2) *Anticoagulant citrate phosphate dextrose solution (CPD).*

Tri-sodium citrate ($Na_3C_6H_5O_7 \cdot 2H_2O$).	26.3 grams
Citric acid ($C_6H_8O_7 \cdot H_2O$).....	3.27 grams
Dextrose ($C_6H_{12}O_6 \cdot H_2O$).....	25.5 grams
Monobasic sodium phosphate ($NaH_2PO_4 \cdot H_2O$).	2.22 grams
Water for injection (U.S.P.) to make.	1,000 milliliters
Volume per 100 milliliters blood.	14 milliliters

(3) *Anticoagulant sodium citrate solution.*

Tri-sodium citrate ($Na_3C_6H_5O_7 \cdot 2H_2O$).	40 grams
Water for injection (U.S.P.) to make.	1,000 milliliters
Volume per 100 milliliters of blood.	10 milliliters

(d) *Donor identification.* Each unit of blood and plasma shall be so marked or identified by number or other symbol so as to relate it directly to the donor.

(e) *Prevention of contamination of the blood and plasma.* The skin of the donor at the site of phlebotomy shall be prepared thoroughly and carefully by a method that gives maximum assurance of a sterile container of blood. The blood shall be collected, the plasma separated, and the cells returned to the donor by aseptic methods in a sterile system which may be closed, or may be vented if the vent protects the blood cells and plasma against contamination.

[38 FR 32089, Nov. 20, 1973; 39 FR 13632, Apr. 16, 1974, as amended at 41 FR 10768, Mar. 12, 1976]

§ 640.65 Plasmapheresis.

(a) *Procedure—general.* The plasmapheresis procedure is a procedure in which, during a single visit to the establishment, blood is removed from a donor, the plasma separated from the formed elements, and at least the red blood cells returned to the donor. This procedure shall be described in detail in the product license application.

(b) *Procedures—specific requirements.* The plasmapheresis procedure shall meet the following requirements:

(1)(i) A sample of blood shall be drawn from each donor on the day of the first medical examination or plasmapheresis, whichever comes first and at least every 4 months thereafter by a qualified licensed physician or by persons under his supervision and trained in such procedure. A serologic test for syphilis, a total plasma or serum protein determination, and a plasma or serum protein electrophoresis or quantitative immuno-diffusion