WAC 296-52-67165 Fixed location mixing. (1) **Buildings.**

(a) **Locations.**

(i) **Separation distance tables.** Buildings or other facilities used for manufacturing emulsions and water-gels must meet the separation distance requirements of Table H-21 for:

(A) Inhabited buildings;

(B) Passenger railroads;

(C) Public highways.

(ii) **Determining distance.** When determining the distances separating highways, railroads, and inhabited buildings from potential explosions (Table H-20), the sum of all masses that may propagate (i.e., lie at distances less than specified in Table H-22) from either individual or combined donor masses are included in the sum. However, when ammonium nitrate must be included, only fifty percent of its weight must be used because of its reduced blast effects.

(b) **Construction.** Buildings used for the manufacture of water-gels or emulsions must:

(i) Be constructed of noncombustible material or sheet metal on wood studs.

(ii) Have mixing plant floors made of nonabsorbent materials, such as concrete.

(iii) Be well ventilated.

(c) **Heat sources.** Heating units that are designed to be independent of the combustion process within the heating unit, may be used within processing buildings or compartments if they:

(i) Have temperature and safety controls; and

(ii) Are located away from combustible materials and the finished product.

(d) **Internal combustion engines.**

(i) **Location.** All internal combustion engines used for electric power generation must be:

(A) Located outside the mixing plant building; or

(B) Properly ventilated and isolated by a firewall.

(ii) **Exhaust systems.** Engine exhaust systems must be located to prevent spark emissions from becoming a hazard to any materials, in or near the plant.

(e) **Fuel oil storage.**

(i) **Facilities.** Fuel oil storage facilities must be:

(A) Independent structures;

(B) Located away from the manufacturing building.

(ii) **Surrounding area.** In order to prevent oil from draining toward a manufacturing building in the event of a tank rupture, the surrounding grounds must slope away from the building.

(2) **Storage of water-gel and emulsion ingredients.**

(a) **Explosive ingredients.** Ingredients must be stored with compatible materials.

(b) **Nitrate water solutions.**

(i) Nitrate water solutions can be stored in tank cars, tank trucks, or fixed tanks without quantity or distance limitations.

(ii) Spills or leaks which may contaminate combustible materials must be cleaned up immediately.

(c) **Metal powders.** Metal powders, for example, aluminum, must be:

(i) Kept dry; and

(ii) Stored in containers or bins that are moisture resistant or weather tight.

(d) **Solid fuels.** Solid fuels must be used in a way that minimizes dust explosion hazards.

(e) **Peroxides and chlorates.** Peroxides and chlorates cannot be used.

(3) **Mixing equipment.** Mixing equipment must comply with these requirements:

(a) **Design.** The design of processing equipment, including mixers, pumps, valves, conveying, and other related equipment, must:

(i) Be compatible with the relative sensitivity of other materials being handled.

(ii) Minimize the possibility of frictional heating, compaction, overloading, and confinement.

(iii) Prevent the introduction of foreign objects or materials.

(iv) Be designed to permit regular and periodic flushing, cleaning, dismantling, and inspection.

(b) **Handling procedures.** Equipment handling procedures must be designed to prevent the introduction of foreign objects or materials.

(c) **Housekeeping.**

(i) A cleaning and collection system for dangerous residues must be provided.

(ii) The mixing, loading, and ingredient transfer areas, where residues or spilled materials may accumulate, must be cleaned periodically.

(d) **Electrical equipment.** Electrical equipment must:

(i) Comply with the requirements of WAC 296-800-280, Basic electrical rules, including wiring, switches, controls, motors, and lights.

(ii) Have appropriate overload protection devices for all electric motors and generators.

(iii) Be electrically bonded with electrical generators, motors, proportioning devices, and all other electrical enclosures.

(iv) Have grounding conductors effectively bonded to:

(A) The service entrance ground connection; or

(B) All equipment ground connections in a manner to provide a continuous path to ground.

(4) **Mixing facility fire prevention.** Mixing facilities must comply with these fire prevention requirements:

(a) All direct sources of heat must only come from units located outside of the mixing building.

(b) A daily visual inspection must be made of the mixing, conveying, and electrical equipment to make sure they are in good operating condition.

(c) A systematic maintenance program must be conducted on a regular schedule.

[Statutory Authority: RCW 49.17.010, 49.17.040, 49.17.050, and 49.17.060. WSR 17-16-132, § 296-52-67165, filed 8/1/17, effective 9/1/17; WSR 05-08-110, § 296-52-67165, filed 4/5/05, effective 6/1/05. Statutory Authority: RCW 49.17.010, [49.17].040, and [49.17].050. WSR 02-03-125, § 296-52-67165, filed 1/23/02, effective 3/1/02.]