§RE4103
EQUIPMENT LOCATION AND CLEARANCES

§RE4103.1 Receptacle outlets. Receptacles outlets shall be installed and located in accordance with §RE4103.1.1 through §RE4103.1.5 [§RE4103.1.4]. Distances shall be measured as the shortest path that an appliance supply cord connected to the receptacle would follow without penetrating a floor, wall, ceiling, doorway with hinged or sliding door, window opening or other effective permanent barrier.

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§RE4103.1.1 Where required. At least one 125-volt 15- or 20-ampere receptacle supplied by a general-purpose branch circuit shall be located a minimum of 10 feet (3048 mm) from and not more than 20 feet (6096 mm) from the inside wall of pools and outdoor spas and hot tubs. This receptacle shall be located not more than 6 feet, 6 inches (1981 mm) above the floor, platform or grade level serving the pool, spa or hot tub.

§RE4103.1.2 GFCI protection. All 125-volt receptacles located within 20 feet (6096 mm) of the inside walls of pools and outdoor spas and hot tubs shall be protected by a ground-fault circuit-interrupter.

§RE4103.1.3 Indoor locations. Receptacles shall be located not less than 5 feet (1524 mm) from the inside walls of indoor spas and hot tubs. A minimum of one 125-volt receptacle shall be located between 5 feet (1524 mm) and 10 feet (3048 mm) from the inside walls of indoor spas or hot tubs.

§RE4103.1.4 Indoor GFCI protection. One hundred twenty-five-volt receptacles located within 10 feet (3048 mm) of the inside walls of spas and hot tubs installed indoors shall be protected by ground-fault circuit-interrupters. One hundred twenty-five-volt receptacles located within 5 feet (1524 mm) of the inside walls of hydromassage bathtubs shall be protected by a ground-fault circuit-interrupter.

§RE4103.2 Switching devices. Switching devices shall be located not less than 5 feet (1524 mm) horizontally from the inside walls of pools, spas and hot tubs except where separated from the pool, spa or hot tub by a solid fence, wall, or other permanent barrier. Switching devices located in a room or area containing a hydromassage bathtub shall be located in accordance with the general requirements of this code.

§RE4103.3 Disconnecting means. An accessible disconnecting means to disconnect all ungrounded conductors for all utilization equipment, other than lighting, shall be provided and located within sight from all pools, spas, and hot tub equipment, and shall be located not less than 5 feet (1524 mm) from the inside walls of the pool, spa or hot tub. NY NY

§RE4103.4 Luminaires and ceiling fans. Lighting outlets, luminaires, and ceiling-suspended paddle fans shall be installed and located in accordance with §RE4103.4.1 through §RE4103.4.5. NY NY

§RE4103.4.1 Outdoor location. In outdoor pool, outdoor spas and outdoor hot tubs areas, luminaires, lighting outlets, and ceiling-suspended paddle fans shall not be installed over the pool or over the area extending 5 feet (1524 mm) horizontally from the inside walls of a pool except where no part of the luminaire or ceiling-suspended paddle fan is less than 12 feet (3658 mm) above the maximum water level. NY NY

§RE4103.4.2 Indoor locations. In indoor pool areas, the limitations of §RE4103.4.1 shall apply except where the luminaires, lighting outlets and ceiling-suspended paddle fans comply with all of the following conditions:

1. The luminaires are of a totally enclosed type; and NY

2. A ground-fault circuit interrupter is installed in the branch circuit supplying the luminaires or ceiling-suspended (paddle) fans; and NY

3. The distance from the bottom of the luminaire or ceiling-suspended (paddle) fan to the maximum water level is not less than 7 feet, 6 inches (2286 mm). NY NY

§RE4103.4.3 Existing lighting outlets and luminaires. Existing lighting outlets and luminaires that are located within 5 feet (1524 mm) NY horizontally from the inside walls of pools and outdoor spas and hot tubs NY shall be permitted to be located not less than 5 feet (1524 mm) vertically above the maximum water level, provided that such luminaires and outlets NY are rigidly attached to the existing structure and ground-fault circuit-interrupter protection is provided for the branch circuit that supplies such luminaires and outlets.

§RE4103.4.4 Indoor spas and hot tubs. NY

1. Luminaires, lighting outlets, and ceiling-suspended paddle fans located over the spa or hot tub or within 5 feet (1524 mm) from the inside walls of the spa or hot tub shall be a minimum of 7 feet, 6 inches (2286 mm) above the maximum water level and shall be protected by a ground-fault circuit interrupter. NY NY

   Luminaires, lighting outlets, and ceiling-suspended paddle fans that are located 12 feet (3658 mm) or more above the maximum water level shall not require ground-fault circuit interrupter protection. NY NY

2. Luminaires protected by a ground-fault circuit interrupter and complying with Item 2.1. or 2.2. shall be permitted to be installed a minimum of 5 feet (1524 mm) over a spa or hot tub. NY NY

   2.1. Recessed luminaires shall have a glass or plastic lens and nonmetallic or electrically isolated metal trim, and shall be suitable for use in damp locations. NY NY

   2.2. Surface-mounted luminaires shall have a glass or plastic globe and a nonmetallic body or a metallic body isolated from contact. Such luminaires shall be suitable for use in damp locations.

§RE4103.4.5 GFCI protection. Luminaires and outlets that are installed in the area extending between 5 feet (1524 mm) and 10 feet (3048 mm) from the inside walls of pools and outdoor spas and hot tubs shall be protected by ground-fault circuit-interrupters except where such fixtures and outlets are installed not less than 5 feet (1524 mm) above the maximum water level and are rigidly attached to the structure.

§RE4103.5 Overhead conductor clearances. Except where installed with the clearances specified in Table RE4103.5, the following parts of pools and outdoor spas and hot tubs shall not be placed under existing service-drop conductors or any other open overhead wiring; nor shall such wiring be installed above the following:

1. Pools and the areas extending 10 feet (3048 mm) horizontally from the inside of the walls of the pool;

2. Diving structures; or

3. Observation stands, towers, and platforms.

Utility-owned, -operated and -maintained communications conductors, community antenna system coaxial cables and the supporting messengers shall be permitted at a height of not less than 10 feet (3048 mm) above swimming and wading pools, diving structures, and observation stands, towers, and platforms.

TABLE RE4103.5
OVERHEAD CONDUCTOR CLEARANCES

	INSULATED SUPPLY OR SERVICE DROP CABLES, 0-750 VOLTS TO GROUND, SUPPORTED ON AND CABLED TOGETHER WITH AN EFFECTIVELY GROUNDED BARE MESSENGER OR EFFECTIVELY GROUNDED NEUTRAL CONDUCTOR (feet)	**ALL OTHER SUPPLY OR SERVICE DROP CONDUCTORS (feet)**	
		Voltage to ground	
		0-15 kV	**Greater than 15 to 50 kV**
A. Clearance in any direction to the water level, edge of water surface, base of diving platform, or permanently-anchored raft	22	25	27
B. Clearance in any direction to the diving platform	14	17	18
C. Horizontal limit of clearance measured from inside wall of the pool	This limit shall extend to the outer edge of the structures listed in Rows (A) and (B) above but not less than 10 feet.		

For SI: 1 foot = 304.8 mm.

§RE4103.6 Underground wiring. Underground wiring shall not be installed under or within the area extending 5 feet(1524 mm) horizontally from the inside walls of pools and outdoor hot tubs and spas except where the wiring is installed to supply pool, spa or hot tub equipment or where space limitations prevent wiring from being routed 5 feet (1524 mm) or more horizontally from the inside walls. Where installed within 5 feet (1524 mm) of the inside walls, the wiring method shall be rigid metal conduit, intermediate metal conduit or a nonmetallic raceway system. Metal conduit shall be corrosion resistant and suitable for the location. The minimum raceway burial depth shall be in accordance with Table RE4103.6.

TABLE RE4103.6
MINIMUM BURIAL DEPTHS

WIRING METHOD	MINIMUM BURIAL DEPTH (inches)
Rigid metal conduit	6
Intermediate metal conduit	6
Nonmetallic raceways listed for direct burial without concrete encasement	18
Other approved raceways[a]	18

For SI: 1 inch = 25.4 mm.

a. Raceways approved for burial only where concrete-encased shall require a concrete envelope not less than 2 inches in thickness.