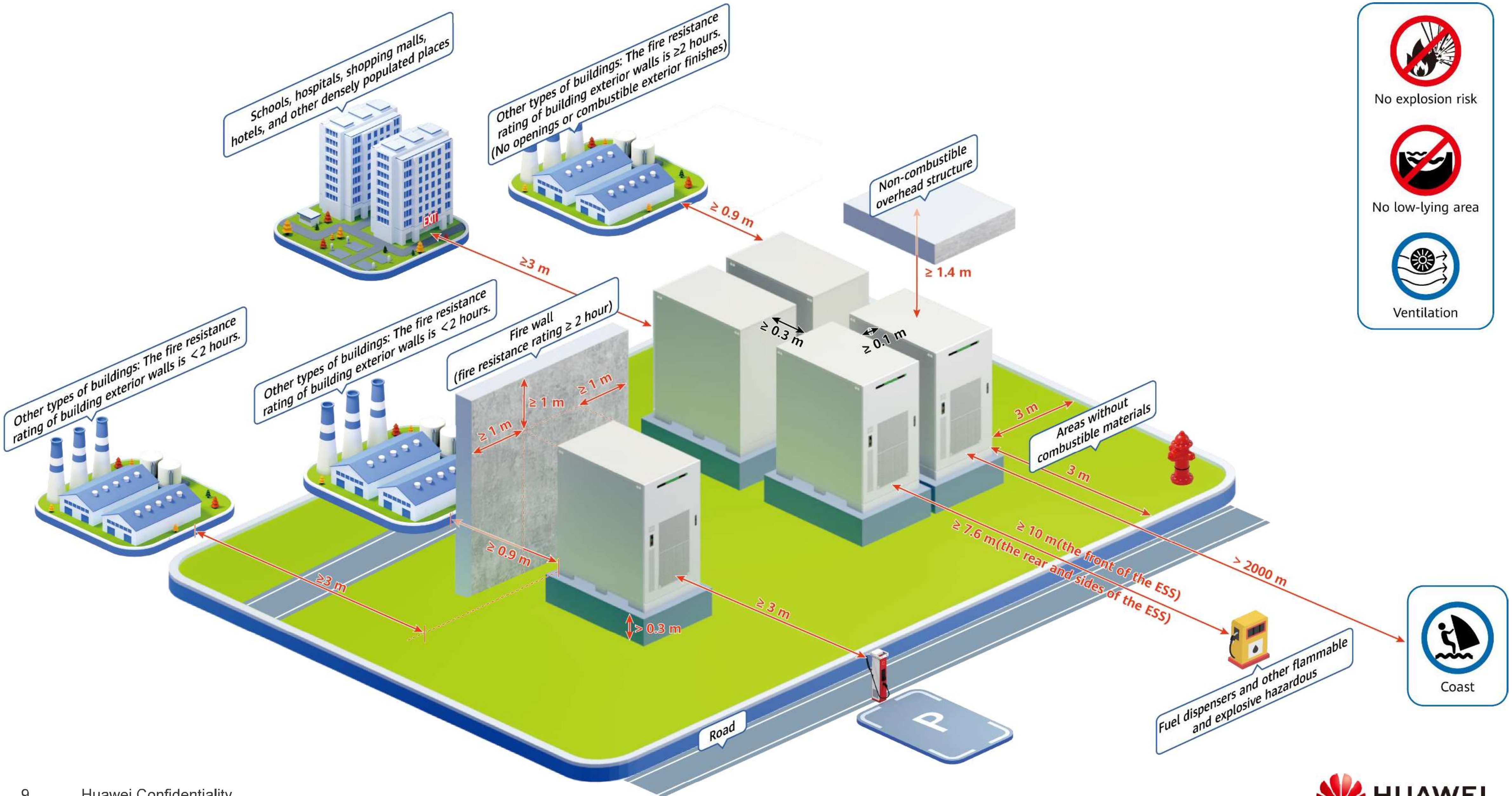
2. C&I Hybrid Cooling Grid Forming ESS Site Requirements



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1. C&I Hybrid Cooling Grid Forming ESS safety constraints

No.	Item	Detailed Constraint (Applicable to C&I ESS products, including the LUNA2000-215 series and derivative models)	Safety Level
Site Selection Requirements	Compliance with local standards	The ESS site selection and installation shall comply with local ESS standards and fire protection regulations or standards.	I
	Deployment space	The ESS applies only to outdoor scenarios and must **not be deployed indoors**. An indoor scenario is an enclosed space surrounded by walls, floors, and ceilings, which is isolated from the outdoor natural space. A facility with 3 walls and 1 open side should be classified as a structure rather than a building, and BESS can be installed inside.	I
	Distance from hazardous chemicals	The distance between **the front of the ESS** and flammable and explosive hazardous sources such as fuel dispensers, oil tanks, gas tanks, and hydrogen dispensers shall be **≥ 10 m**. The distances between **the rear and sides of the ESS** and flammable and explosive hazardous sources such as fuel dispensers, oil tanks, gas tanks, and hydrogen dispensers shall be **≥ 7.6 m**.	I
	Vegetation and flammables	There shall be **no vegetation or flammables within 3 m** of the ESS or the ESS site. Non combustibles materials can be placed within 3m of ESS such as PV panels, inverters, distribution box. Single specimens of flammables (such as green grass, ivy, succulent plants, trees, shrubs, or cultivated ground cover) shall be exempt, provided that they do not form a means of readily transmitting fire.	I
	Overhead structure	If an overhead structure is necessary above the top of the ESS, the following conditions must be met: 1. The distance between the overhead structure and the top of the ESS shall **be ≥ 1.4 m**. 2. The overhead structure shall be **non-combustible.**	I
	Distance from densely populated buildings	The ESS shall be **≥ 3 m** away from key positions such as main entrances and fresh air systems in **densely populated places** such as schools, hospitals, hotels, and shopping malls. The distance must not be shortened by using a fire wall. For non-key positions, refer to the clearance requirements for other types of buildings. Note: Densely populated places: outpatient buildings and wards of hospitals, teaching buildings, libraries, canteens, and dormitories of schools, nursing homes, welfare homes, nurseries, kindergartens, reading rooms of public libraries, public exhibition halls, museum exhibition halls, production workshops and dormitories of labor-intensive enterprises, tourist attractions, and religious places	II
	Clearance requirements for other types of buildings	If the building walls do **not meet the 2-hour** fire resistance requirement: 1. The ESS shall be **≥ 3 m** away from buildings, public roads, and parking spots. 2. If a **2-hour fire-resistant fire wall** is added between the ESS and the buildings, the ESS shall be **≥ 0.9 m** away from the buildings, public roads, and parking spots. If the building walls **meet the 2-hour** fire resistance requirement: 1. If the walls are **free of openings or combustible exterior decoration**, the ESS shall be **≥ 0.9 m** away from the buildings. 2. If the walls have **openings or combustible exterior decoration**: 2.1. If the ESS is **≥ 3 m** away from the openings or combustible exterior decoration, the ESS shall be **≥ 0.9 m** away from the buildings. 2.2. If the ESS is **< 3 m** away from the openings or combustible exterior decoration, the ESS shall be **≥ 3 m** away from the buildings. If a 2-hour fire-resistant fire wall is added between the ESS and the buildings, the ESS shall be ≥ 0.9 m away from the buildings.	II
	Fire wall requirements	The fire walls shall have a 2-hour or higher fire resistance rating and shall extend 1 m above and 1 m beyond the physical boundary of the ESS. Examples of 2-hour fire resistance rating: concrete walls, reinforced concrete solid walls, silicate walls, and clay brick walls with a thickness of **≥ 120 mm**	II
	Coastal requirements	For all projects within 2000 m away from the coast, check the corrosion level of the place where the project is located. ➢ For projects with corrosion levels C1 to C4, ESSs can be deployed properly. ➢ For projects with corrosion level C4.5 or C5, refer to the *C&I Hybrid Cooling Grid Forming ESS C4.5/C5 Environment Application Description*. ➢ For projects with corrosion level C5.5 or CX, do not sell ESSs.	II
	Fire access	Transportation to the site shall be convenient, with fire engines able to reach it via surrounding roads.	III
	Fences and walls	Outdoor open electrochemical energy storage plants shall be equipped with fences and walls.	III

The R&D department will update the document as required based on the energy storage industry progress and related research results. Class I requirements are mandatory and non-negotiable. Class II requirements require decision-making if unmet. Class III requirements are recommended.

Document submission requirements: Submit documents for SRB review, such as the site coordinates, ESS layout plan (displaying the distance between the ESS and surrounding buildings), surrounding environment information, and site fire suppression facilities.

All ESS products shall be installed outdoors. Rooftop, indoor, or semi-indoor installations require safety review by the joint sub-DRB.