Sellafield Ltd

CNC Operational Unit

Design and Access Statement

Project Title:	CNC Operational Unit Project
Project Number:	35/09968
Document Reference:	RP/3509968/CSA/00010
By:	Mike Crewdson
Issue Date:	March 2021

---

1. Purpose of the Development

The Civil Nuclear Constabulary (CNC) Operational Unit - will be a deployment facility, on the Sellafield site, that is suitable for responding to the UK's threat level for international and national terrorism.

The facility will be required for decades ahead and is being designed to ensure that it is fit-for-purpose for the future and has the capability to respond to evolving threats. Fundamental to the design of the building is the requirement to enable rapid and effective operational deployment to protect the site i.e. to facilitate effective handovers at shift changeovers and to equip and deploy armed police officers ready for duty on the Sellafield site. The facility has been designed to provide essential requirements only and these have determined the size of the building.

The Civil Nuclear Constabulary (CNC) has a statutory duty to protect the UK by maintaining a 24/7-armed policing response at civil nuclear sites. This role includes having a significant presence at Sellafield to protect the Nuclear Licensed Site and the nuclear materials that are managed and stored on the site. Maintaining the safety and security of the Sellafield site is paramount.

CNC currently operate from several old and out-of-date buildings that are in disparate locations within the Sellafield site, which results in operational and cost inefficiencies which in turn lead to the requirement of a new combined facility

2. Location

The proposed CNC Operational Unit will be located on the Sellafield site in an elevated position within the North Group area (please refer to drawing 1BE 3009117A).

The proposed site was previously occupied by offices and laboratories. Due to the previous development on the site, the existing ground level rises in a series of plateaus from its lowest level in the West rising 5m to the Eastern side of the site.

The built form around the site is largely industrial buildings, infrastructure and offices. The land adjacent to the development site is in use as laydown areas, infrastructure and other new developments which restrict the useable footprint of the CNC OU site.

3. Use

The proposed CNC OU building will provide 24-hour accessible facilities for existing CNC staff who are currently located elsewhere on the Sellafield site. The facility will provide essential on-site support to the whole of the Sellafield site, with the ancillary buildings supporting the operations of the main CNC OU building.

4. Layout

The proposed development site covers approx. 5,280m² and slopes down towards the northwest at around 5m in 300m. The site will incorporate several ancillary buildings to support the CNC.

The site Layout of the main CNC OU building is shown on drawing: 1BE 3009119 A. The proposal comprises of 4 key areas:

- Main CNC OU building
- Garage
- Kennels
- Operational Car park areas

The layout of the development responds to the topography of the site, with the buildings being set into the rising slope. There are two distinct levels; the Lower level and Upper Level. The principal entrance (visitor accessible) is situated on the Lower level, it is also the level used for deliveries to the site. The Upper level provides access for operational CNC staff and access to the building from the operational car park.

The CNC building is sited adjacent to the garage building on the Lower level of the site. It will be linked via a shared external staircase to the Garage, and the Kennels will be directly adjacent to the main building. The existing car parking areas are part of the proposed development with a small set of new visitor spaces situated directly adjacent to the principal entrance.

5. Scale

Main CNC OU Building

The CNC building will be max 15.8m to the parapet with a footprint of approximately 1,700m² (58m x 29m). The building will be arranged over 2.5 levels set into the rising slope in response to the existing topography of the site. The main CNC OU building will not be visible from most offsite positions, as it is much smaller in scale than its surrounding buildings.

Garage

The proposed Garage building will be max 7.2m in height to the parapet with a footprint of approx. 170m² (19.8m x 8.7m). The building is set within the slope of the site and the flat roof of the building incorporates a plant area housing air sourced heat recovery units.

Kennels

The proposed Kennels will be 3m in height with a footprint of approx. 1.7m x 3.2m located within 4m x 7.2m enclosed areas within an overall slab footprint of approx. 25m x 7.2m. The entire kennel area houses 6no. Individual kennels each to be situated within a separate enclosed area, spanning from the foot of the main CNC building principle entrance level and up the slope.

6. Form

Main Building Form

The Main CNC OU building will be rectangular in shape, and arranged over 2.5 floors with pedestrian access to both the lower and upper levels via shared staircases which flank the sides of the building up the slope. The building will have a mono pitched roof sloping up towards the Principal entrance and several roller shutter access doors for the movement of large pieces of equipment.

7. Appearance

Materials

Roof

The roof of the CNC Operational Unit main facility will be Kalzip aluminium standing seam roofing with a silver/grey stucco embossed finish; it is a sustainable material which will weather over time, becoming less reflective. Furthermore, Kalzip cladding and roofing has been widely applied on a number of different buildings across the Sellafield site, the scales of which are greater that what is proposed for the CNC building.

Kalzip has been used at Sellafield since circa 1984. Its continuing use on the site is primarily due to its extended design life over other cladding and roofing systems. Whereas traditional aluminium cladding and roofing systems will have a guaranteed design life of 15 to 20 years in a coastal marine environment, the Kalzip system is guaranteed for up to 45 years, and

with a manufacturer's expectation that the system should provide 60 years design life. The significance of this is that a traditional aluminium cladding system may need replacing up to three times during the design life of the building, whilst the Kalzip system should not require replacing at all. This is of great benefit from a lifetime costing basis but also from operational, safety and security points of view. The use of Kalzip in this application is therefore both sustainable and appropriate within the context of the existing site context and building landscape.

Doors/Windows

The windows throughout all buildings of the development will be PPC, thermally broken aluminium windows. There will be various door types that generally consist of double and single leaf doors for pedestrians and roller shutter doors for vehicular access. All powered doors will be compliant to the Workplace (Health, Safety and Welfare) Regulations 1992: Regulation 5 Maintenance of workplace, and of equipment, devices and systems approved code of practice and guidance.

External Finishes

The CNC OU building will be clad in polyester powder coated insulated metal panels in mid and light grey colours. The façade will also have triple banked PPC aluminium louvers integrated into the insulated panel system. Below the DPC and areas forming retaining walls the building will be faced with blue class A engineering brick.

The Garage will be constructed of blue engineering brickwork and clad in polyester powder coated insulated metal panels in mid and light grey colours. It also has PPC aluminium louvres above each vehicular roller shutter door

The Kennels will be constructed of Blue Engineering brickwork with mesh fencing to the top of the brickwork, and mesh fencing to the entrance side. The entrance doorway will be constructed of mesh fencing also with the door framed out with supports.

8. Landscaping

The existing site currently comprises of hardstanding with 2 no. existing concrete slabs from previously demolished previous buildings. Approximately 20 percent of the development area will be open hardstanding with 40 percent of that being tarmac, for car parking or access roads. The remainder of the site will accommodate the main building and ancillary structures.

9. Access

Access to the Site

The main access to the CNC OU will be provided via a newly formed access road which will be connected to the existing road at the North West corner of the site. Direct access for vehicles to the CNC Operational Unit project site will be detailed in the Construction Statement, Transport and Waste Plan accompanying this application (RP/3509968/CSA/00016). Direct access for pedestrians will be via a Lower level hardstanding path adjacent to the newly formed road, leading to the Principal entrance.

Access to Building

There will be two external levels to the CNC Accommodation site, the lower level (-4.00 level) will have the Principal entrance with pedestrian access based in the North West area of the building. The upper level will be Operational CNC Staff only access adjacent to the operational carpark.

A new hardstanding area will be constructed to the Northwest area of the site, adjacent to the newly formed access road, from which there will be pedestrian access to the Principal entrance of the building via a level path. The newly formed access road will also provide delivery vehicle access for import of equipment as well as providing access for on-site vehicles to the Garage.

Inclusive Access

There will be a visitor's car park with 1no. disabled car parking space located near the Principal entrance, which will be Part M compliant. The CNC OU building will have 10-person Equality Act compliant lift accessible from the Principal entrance. The building will be Part M compliant throughout, all corridor widths exceed part M recommendations to cater for the needs of operational staff with full body armour as well as wheelchair accessibility.

Access to Ancillary Buildings

The Garage will be accessed from the newly formed road access and Sellafield's existing private network of roads. A new section of road will also be constructed on the site at the Upper level, providing access to the new car park and high level main building access.
The Garage will be accessed from the lower level of the site by four roller shutter vehicular doors, and two additional pedestrian entrances. There will also be an external staircase rising to the upper level of the site which will provide access to the rooftop plant. This staircase will be shared by the garages and the main CNC building. External doors to the Garage will be located at -4.00 level providing accesses for the onsite vehicles.

The Kennels will be located to the North of the site and set into the rising slope of the site. They will be accessible by foot via a series of new external staircases. The staircases will span from -4.00m level, up the slope to the rear of the building at +4.00m level.

10. Vehicle and Transport Links

There will be 3no. visitor spaces and 1no. disabled space located on the Lower level in close proximity to the principle entrance. The other car parking spaces will be for operations and located on the Upper level, there will be no other new car parking spaces introduced as the operational staff are already located within the Sellafield site and there is no increase in the parking load. Personnel are to utilise the existing car parks and modes of commutation to the site, including park & ride and the onsite shuttle bus services. Access for emergency services will be provided via the existing Sellafield road network in accordance with Building Regulations.

11. Services

No communication masts will be mounted to the CNC OU building.

12. Flood Risk Assessment

The existing site is in Flood Zone 1 according to EA flood maps and is therefore at low risk of flooding from rivers and the sea. The risk of groundwater flooding is also identified as low.

Although a formal flood risk assessment is not required to validate the application, a flood risk assessment (FRA) has considered the risk of flooding from various sources to the proposed development on the Sellafield site. It has also considered the potential impact of this development on other receptors outside the site.

The proposed surface water drainage system is designed to accommodate and manage the rainfall associated with a 100 year plus 40% climate change event. The development will therefore not increase the load on the existing surface water drainage infrastructure, nor will it generate additional overland flow from within the red line boundary.

There will be no increase to flood risk outside of the proposed site or outside of the wider Sellafield site as a result of the drainage systems associated with the proposed development.

13. Drainage Impact Assessment

Surface water from the proposed development will be discharged to the existing site drainage network. The proposed drainage is designed to attenuate flow with flow controls in place to limit the discharge to a rate at or below existing levels. The proposed drainage system is designed to manage rainfall associated with a 100 year storm with 40% climate change allowance. The development will therefore not increase the load on the existing surface water drainage infrastructure, nor will it generate additional overland flow from within the red line boundary.

There will therefore be no increase to flood risk outside of the proposed site or outside of the wider Sellafield site as a result of the drainage systems associated with the proposals.
Foul drainage from the kennels will be directed to a dog waste treatment plant prior to connection with the main foul network.

14. Clean Air Assessment

Given the nature of the development, including its location, an air quality assessment is not required.

The proposed CNC building will be used by SL personnel and there will not be an increase to the number of cars coming onto site as the personnel using the building are already based on Sellafield site.

Aerial discharges from the main building will be limited to general building ventilation. Space for backup emergency generation will be provided should an event resulting in the loss of power occur and the facility require power. This would result in low levels of emission of combustion products for the recovery period.

During construction, emissions from plant may be expected; these will be at low level and commensurate with normal activities on Sellafield site. Excavation and vehicle movements during dry weather may give rise to potential dust emissions; these will be managed through normal construction management measures such as the application of damping sprays.

15. Noise

The site is located within the Sellafield site away from sensitive environmental receptors. Noise generated from the site during construction and operation is unlikely to be discernible above back ground noise at the site Sellafield site boundary.

16. Lighting

Lighting from the project during construction and operation will be commensurate with the existing lighting regime to facilitate safe and secure operations. Lighting from this development will not increase the overall levels of light impact at the site perimeter

17. Operational Transport Assessment

The proposed CNC building will be used by CNC personnel and there will not be an increase to the number of cars coming onto site as the personnel using the building are already based on Sellafield site. Neither will there be an increase in traffic along the nearby roads as personnel will be using existing carparks.

18. Related Drawings and Documents

BE 3009117	Site Location Plan
BE 3009118	Existing Site Topographic Plan
BE 3009119	Proposed Site Plan
BE 3035267	Proposed -4.00m Level Lower Ground Floor Plan
BE 3035268	Proposed -0.00m Level Ground Floor Plan
BE 3035269	Proposed +4.00m Level First Floor Plan
BE 3035270	Proposed Roof Plan
BE 3035271	Proposed Elevations Sheet 1 of 2
BE 3035272	Proposed Elevations Sheet 2 of 2
BE 3035273	Proposed Garage and Kennel Plans & Elevations
RP/3509968/CSA/00009	Visual Impact Assessment
RP/3509968/CSA/00018	Planning Policy & Context
RP/3509968/CSA/00016	Construction Method Statement, Transport & Waste Plan
RP/3509968/CSA/00011	Construction Environmental Management Plan
RP/3509968/CSA/00015	Phase 1 Habitat Survey
NFR/3509968/CSA/00013	Addendum to Phase 1 Habitat Survey