Schedule 5(m)

Operation Control Center (OCC)

California High-Speed Rail Authority

Standard Specifications

TSCC Specification

SPEC-0017 – Operation Control Center (OCC)

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1 INTRODUCTION

1.1 Scope of the technical specification

1.1.1 The scope of this Technical Specification is to define The Authority's Requirements for the **Control Center Systems**, which includes the **Operational Control Center** (**OCC**) and **Facilities Control rooms**.

1.1.2 This Technical Specification is based on the Authority's Design Criteria Manual (DCM) Chapter 12: Communication Systems and Train Control.

1.1.3 The functional architecture of OCC is presented in Appendix A.

1.1.4 The requirements are formulated using the following words and their meanings:

- "Shall": Indicates mandatory requirement that must be strictly implemented. Any impossibility to fulfil this requirement must be agreed through a derogation case (see change management procedure).
- "Should": Indicates preferred course of action, recommendations. No agreement of derogation is necessary, there may exist valid reasons in particular circumstances to ignore a particular item, but the full implications must be understood and carefully weighed before choosing a different course - for example the same goal is reached by other solutions, which are permissible within the binding standards or documents.
- "Must": Indicates an obligation or a mandatory requirement.
- "May": Indicates a permissible course of action within the limits of the standards, but which is not mandatory to be fulfilled.

2 REFERENCE STANDARDS AND DOCUMENTS

2.1 General

2.1.1 The TSCC Contractor shall apply the in-force standards, guidelines and specifications provided in this chapter for all stages of the design, test, manufacture, supply, delivery, assembly, installation, testing, commissioning and training.

2.1.2 All generic standards to be used are provided in: Technical Contract Requirements.

2.2 Standards

2.2.1 The following specific standards to be used for Control Centers are listed below.

ID	Code	Title
Control Room		
[R6]	ISO 11064	Ergonomic Design of Control Centers – Part 1 to 7
[R7]	EN 614 Part 1	Safety of machinery. Ergonomic design principles. Terminology and general principles
[R8]	EN 614 Part 2	Safety of machinery. Ergonomic design principles. Interactions between the design of machinery and work tasks
[R9]	BS 5940 Part 1	Office furniture. Specification for design and dimensions of office workstations, desks, tables and chairs
Displays / Workstations		
[R10]	ANSI/HFS 100	Human Factors Engineering of Computer Workstations
[R11]	ISO10075	ERGONOMIC PRINCIPLES RELATED TO MENTAL WORKLOAD - PARTS 2 & 3
[R12]	ISO9241	Ergonomic of Human System Interaction 210 – Human centered design for interactive systems 302 - Terminology for electronic visual displays 303 – Requirements for electronic visual displays 400 - Principles and requirements for physical input devices 3 – Visual display requirements 4 – Keyboard requirements 5 - Workstation layout and postural requirements 6 - Guidance on the working environment
[R13]	ISO9335	Ergonomic requirements for the design of displays and control actuators 2 - Displays
Auditory / Visual Signals		
[R14]	ISO7731	Danger Signals for workplaces – Auditory danger signals
[R15]	ISO11428	Ergonomics – Visual danger signals – Generic requirements, design and testing
[R16]	ISO11429	Ergonomics – System of auditory and visual danger and information signals

ID	Code	Title
[R17]	EEMUA 191	Alarm systems – A guide to design, management and procurement
[R18]	EEMUA 201	Process plant control desks utilizing human-computer interfaces - guide to design, operational and human computer interface issues.
[R19]	ANSI/ISA–18.2	Management of alarms for process industries
[R20]	EEMUA 201	Process plant control desks utilizing human-computer interfaces - guide to design, operational and human computer interface issues.
Lighting		
[R21]	CIBSE	Code for Lighting
[R22]	ISO8995	1 – Lighting of workplaces – Part 1: Indoor
Thermal Environment		
[R23]	ANSI/ASHRAE 55	Thermal Environmental Conditions for Human Occupancy
Acoustics		
[R24]	MIL-STD-1472F	Department of defense design criteria standard –Human engineering

TABLE 1 - LIST OF APPLICABLE STANDARDS

2.2.2 The Standards, regulations, codes and directives listed in TABLE 1 are applicable to the design of the Control Rooms, Systems, Workstations and Human Machine Interfaces and are in addition to those defined in the high-level tender documentation.

3 TERMS, DEFINITION AND ABBREVIATION

3.1.1 All the terms, definitions, and abbreviations are provided in the Glossary of Terms, Abbreviations and Definitions.

4 OCC DESCRIPTION

4.1 Purpose of the OCC

4.1.1 The overall rail shall be controlled through a hierarchical arrangement of rooms in the OCC at the following locations:

- Control Room
- Crisis Room
- Safety & Security Room
- Security Gatehouse
- Training Room
- Maintenance Room
- Equipment Room

4.2 OCC Definition

4.2.1 A proposed overview of the OCC layout is provided in the figure below:

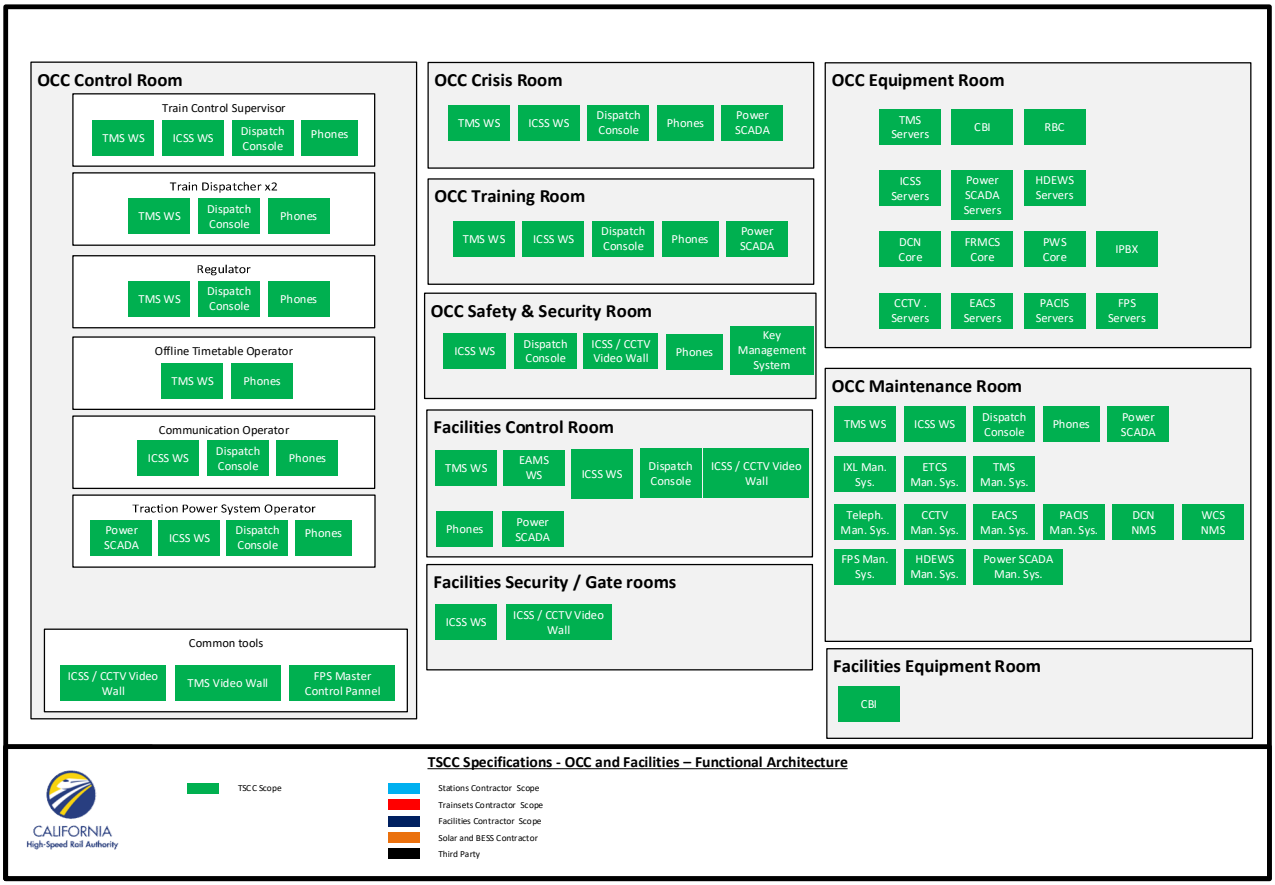

FIGURE 1 - GENERAL OVERVIEW OF THE OCC

4.2.2 The OCC shall be located in Fresno.

5 CONTROL ROOMS

5.1 General Requirements

5.1.1 The OCC and facility staff shall be able to control and monitor all equipment and functions for operations in the relevant area of control.

5.1.2 The TSCC Contractor shall supply all workstations, consoles, desks, furniture, fixtures and fittings to be in the various rooms that are required for operation of the railroad.

5.1.3 This specification shall be read in conjunction with the standards listed in the *Table 1 - List Of Applicable* Standards and TSCC Technical Specifications which describe in detail the requirements for the workstations, servers, networking equipment, peripheral equipment, computers, printers, telephones, handsets and other voice communications equipment to be installed in the various rooms.

5.1.4 While any future upgrades, modifications, or additions of equipment in the OCC, all new equipment, consoles, desks, furniture, fixtures, and fittings shall remain homogeneous with the originally installed consoles, desks, furniture, fixtures, and fittings. In case of space constraints arising from these upgrades or modifications, the TSCC Contractor shall rearrange the control room layout to accommodate the new assets of the CHSR line, subject to the Authority's approval.

5.2 Environmental Requirements

5.2.1 A detailed task analysis and human factors study shall be conducted by the TSCC Contractor for all control rooms.

5.3 System Operation

5.3.1 All traffic on the main line shall be controlled from the Operational Control Center (OCC) located in Fresno.

5.3.2 Movements between the main line and the facilities via the transfer tracks shall be coordinated by the train dispatchers at the OCC and the relevant local controller.

5.4 Common Requirements for Control Rooms

5.4.1 General Requirements

5.4.1.1 Requirements are subject to input from the Early Train Operator, and should be revised once a concept of operations for the OCC is approved by the Authority.

5.4.1.2 The OCC and facilities shall contain the necessary displays, control workstations, communications apparatus and operating personnel to control, monitor and maintain the CHSR line and facilities.

5.4.1.3 The TSCC Contractor shall perform a detailed task analysis to reconfirm the roles and responsibilities of controllers, equipment quantities and controller types.

5.4.1.4 The quantity/number of controllers/staff shown in this specification is indicative only and shall be subjected to change based on the detailed task analysis by the TSCC Contractor.

5.4.1.5 The Ergonomic & Human Factors Guidelines shall include detailed task analyses and collaborative design processes to support the optimization of control and display interfaces and engineering processes and systems, mitigating the risks of human error and optimizing human performance through design.

5.4.2 Human Machine Interface Guidelines

5.4.2.1 The TSCC Contractor shall prepare a set of Human Machine Interface (HMI) Guidelines, which should be applicable to all room workstations and equipment.

5.4.2.2 The HMI Guidelines shall set out requirements for:

- Use and display English. Multilingual support, including Spanish, should be considered based on operational and regulatory requirements defined by the Authority.
- Screen navigation
- Use of screen areas
- Menus
- Tabs
- Buttons
- Icons
- Schematics
- Graphs
- Alphanumeric text input fields
- Alphanumeric displays
- On screen keypads
- Sound
- Color
- Icon displays
- Use of backlighting
- Help functions
- Screen layout Alarms and Displays including Legends (explanation of icon)

5.4.2.3 The HMI Guidelines shall define the use of colors and sounds for alarms and warnings.

5.4.2.4 The HMI guidelines shall also define requirements for the following:

- Positioning of labels
- Positioning and types of actuators
- Positioning and type of indicators

5.4.3 Ergonomic & Human Factors Guidelines for control rooms

5.4.3.1 The TSCC Contractor shall prepare a set of Ergonomic & Human Factors Guidelines for control rooms that shall be applicable to the design and layout of all rooms.

5.4.3.2 The Ergonomic & Human Factors Guidelines for Rooms shall comply with the standards referenced in this specification.

5.4.3.3 The Ergonomic & Human Factors Guidelines for Rooms shall set out the Ergonomic & Human Factors requirements for the following:

- Console / desk furniture
- Seating design and posture
- CCTV placement

- Furniture location
- Line of sight recommendations
- Maintenance access
- Accessibility and human circulation
- Lighting levels
- Use of natural / artificial light
- Levels of vibration
- Room acoustics
- Temperature
- Air quality

- Indicators or actuators not already covered by the HMI Guidelines. Alarms and Displays

5.4.3.4 The Ergonomic & Human Factors Guidelines shall deliver a recommendation for the operational environment on the CHSR line. The TSCC Contractor shall provide the guidelines to facilities contractors for implementation.

5.4.3.5 The Ergonomic & Human Factors Guidelines shall look at the operational efficiency of the workstations and controller consoles or desks, and the visual interface with the Visual Display Units as primary impacts.

5.4.3.6 The Ergonomic & Human Factors Guidelines shall consider the suitability of the control rooms and operational environment for the operational hours of the railroad, namely 24/7/365 operations.

5.4.3.7 The guidelines shall recommend the ergonomic requirements to maximize the efficiency of operational interaction between controllers in the control rooms.

5.4.4 Provision of Equipment Storage Space

5.4.4.1 Two classes of storage space (Type 1 and Type 2) shall be provided in each room.

5.4.4.2 Type 1 storage space that is frequently accessed daily shall be placed under each Dispatcher's console.

5.4.4.3 Type 2 storage space that is infrequently accessed shall be provided in other areas of each room.

5.4.4.4 The TSCC Contractor shall provide storage spaces at controller consoles and in other areas of each room.

5.4.5 Hanging of Equipment and Items

5.4.5.1 The design and loading specifications for wall and ceiling brackets and fixings used to hang equipment or items shall be in accordance with relevant applicable international standards.

5.4.5.2 Wall and ceiling mounted equipment shall not impede controllers in carrying out their duties.

5.4.6 Environment and Console Design

5.4.6.1 The detailed design of each control room shall consider acoustic control, limitation of acoustic interference between controller's locations, environment, air quality, lighting level and controller's comfort.

5.4.6.2 The consoles design shall be submitted to the Authority for approval.

5.4.6.3 All console surfaces shall be durable and scratch resistant.

5.4.6.4 Double consoles, where applicable, shall have sufficient space between controllers to allow them to have their own space but allowing for ease of communication between them.

5.4.6.5 All console furniture shall be designed in accordance with ergonomic considerations.

5.4.6.6 There shall be sufficient provision made for air flow and cooling within each dispatcher's console so that the ambient temperature within the console furniture remains within the operating limits of all equipment located inside the console enclosures.

5.4.6.7 Controller's consoles shall be designed to accommodate all necessary equipment for CHSR line and facilities.

5.4.6.8 The interior of the console shall allow for spare capacity (e.g., 40%) to be provided for future equipment requirements, agreed with the Authority.

5.4.6.9 The use of natural and artificial lighting shall not induce glare or significant heat gain within OCC and facilities environments.

5.4.6.10 If windows or skylights are employed in the room, all materials shall be shatter proof.

5.4.6.11 Each control room shall be provided with digital display clock(s) to be visible by all controllers which are connected to the Network Timing System.

5.4.6.12 The TSCC Contractor shall propose layouts for each control room which shall be subject to approval by the Authority.

5.4.6.13 The consoles shall be designed such that the dispatcher is able to view and reach each screen from a static position.

5.4.6.14 All operational equipment within Consoles shall be fed by Uninterrupted Power Supply (UPS) from the Low Voltage Power System (LVPS).

5.4.6.15 Type A/B North American Power sockets shall be provided within the console providing both UPS or non-essential power for the dispatcher to use.

5.4.7 **Video Wall Display (VWD)**

5.4.7.1 The TSCC Contractor shall propose a dedicated VWD for the CHSR line.

5.4.7.2 The Video Wall Display shall be located at the front of the OCC Control Room.

5.4.7.3 The VWD software shall be built on a generic Graphic Display software platform which has been proven in use.

5.4.7.4 The Ergonomic & Human Factors Guidelines shall consider the ability to work at any workstation in the OCC and have a free and unrestricted view of the VWD.

5.4.7.5 The VWD shall be configurable to display the following, but not limited to:

- Line Overview
- CCTV feeds
- Meteorological data
- Critical Alarms
- Other feeds as required by the operator.

5.4.7.6 The VWD shall provide a line overview including, but not limited to the following:

- Track Layout
- Location of HDEWS detectors
- Location of trains
- Train Identification

- Train route
- Switch status
- HDEWS Alarms
- Selected alarms from other systems such as power, fire and ventilation systems
- Traction power Distribution network

5.4.7.7 The VWD shall enable the operator to hide and unhide each information above individually.

5.4.7.8 The VWD equipment shall come with self-test and diagnostic capabilities, where possible. Self-tests shall be initiated each time the equipment is powered up.

5.4.7.9 Successive loading of full static and dynamic graphics on the VWD shall be presented within a maximum delay (e.g., 3 seconds), agreed with the Authority.

5.4.7.10 The VWD shall be positioned at the front of the OCC Control Room facing the controllers.

5.4.7.11 The VWD shall be sufficiently sized to allow all controllers in the Control Room to be able to view the screen and details on the screen from their positions.

5.4.7.12 The TSCC Contractor shall propose a set of pre-defined display layouts to be agreed with the Authority during detailed design. The controller shall be able to modify the display layout by rearranging the windows and adding / suppressing feeds.

5.4.7.13 The VWD shall be compliant with the requirements of the electronic visual display in ISO 9241-303.

5.4.7.14 The VWD brightness shall be automatically adjusted to the room, ambient lighting and manual override shall be possible.

5.4.7.15 The VWD controller shall not have a single point of failure.

5.4.7.16 The VWD shall be capable of performing zoom function.

5.5 OCC Rooms

5.5.1 The OCC Rooms and associated functions required to operate the system of the CHSR line can be estimated as per Table 37~~Table 37~~, subject to a detailed task analysis by the TSCC Contractor. This is subject to the Authority's approval during detailed design.

Room	Quantity
Control Room	1
Crisis Room	1
Training Room	1
Maintenance Room	1
Safety & Security Room	1

TABLE 37 – OCC ROOMS

5.5.2 A Safety & Security room is recommended in the OCC. The exact location shall be agreed with the Authority during detailed design stage.

5.5.3 The OCC Safety & Security room shall contain an Electronic Key Management System and cabinet.

5.5.4 The quantity/number of operators/staff required to operate the system of the CHSR line can be estimated as follows, subject to a detailed task analysis by the TSCC Contractor. This is subject to the Authority's approval.

5.5.5 The final list of workstations and equipment's shall be based on the approved task analysis.

5.5.6 **Staff workstations in OCC Control Room (CR)**

5.5.6.1 The proposed roles and their intended functions are defined as follows:

- Train Dispatcher: Manages operations within a defined geographical sector, including tasks such as setting up or cancelling routes. Manages engineering possession.
- Train Control Supervisor: Responsible for the Dispatchers. They can, for example, reassign geographical sectors between dispatchers.
- Offline Timetable Operator: Build and load timetables into the system.
- Regulator: Ensures overall regulation of the CHSR line. They coordinate with dispatchers, has the Time-Distance Graph, and can decide to prioritize a train or force a train to pause for regulation purposes.
- TPS Operator: The Traction Power System Operator supervises the Traction Power/OCS system via SCADA network.

5.5.6.2 Extra desks shall be provisioned by the TSCC Contractor for future network extension.

Operator	Quantity
Train Control Supervisor	1
Train Dispatcher	2
Offline Timetable Operator	1
Regulator	1
Communication Operator	1
Traction Power System Operator	1

TABLE 38 – STAFF DESKS IN OCC CONTROL ROOM

5.6 Facility Rooms

5.6.1 **Facilities Control Rooms**

5.6.1.1 The Facilities Control room shall be located within their respective premises.

Operator	Quantity
Yard Controller	1

TABLE 39 – STAFF DESKS FACILITIES CONTROL ROOM

5.6.2 **Security Rooms (SR) and Security Gatehouses:**

5.6.2.1 A security room shall be in the facilities. The exact location shall be to be agreed with the Authority during the design stage.

5.6.2.2 The security rooms and security gatehouses shall provide CCTV, Electronic Access Control System functionality and Fire Protection functionality for the controller.

Operator	Quantity
Security Operator (CCTV, EACS, Fire Protection)	1

TABLE 40 - SECURITY ROOMS

Operator	Quantity
Security Operator (CCTV, EACS, Fire Protection)	1

TABLE 41 - SECURITY GATEHOUSES

5.7 Staff and Controllers Responsibilities

5.7.1 The TSCC Contractor shall liaise with the Authority to obtain a detailed list of tasks and responsibilities to be implemented within the control rooms.

5.7.2 Workstations and equipment shall be provided for the dispatcher to perform the activities in the task list.

5.8 Control Rooms Workstation Equipment

5.8.1 The TSCC Contractor shall as part of their design work carry out task and communications analyses to justify the allocation of workstations and equipment for each controller. This is subject to the Authority's approval during design.

5.8.2 The workstations for the sub-systems to be considered shall be as follows:

- TMS system including control and monitoring shall refer to the Technical Specification – TMS
- ICSS system including control and monitoring shall refer to the Technical Specification – ICSS
- FRMCS Dispatcher Terminal
- Enterprise Asset Management System (EAMS)
- Fallback PSTN Phones
- Emergency Hotline Phones
- Office Administration Laptop
- Telephone
- Power SCADA Workstation

5.8.3 Each Workstation shall be equipped with an office administration computer and a telephone.

5.8.4 **OCC Control Room**

5.8.4.1 The quantities of workstation equipment to be achieved for the CHSR line and for each controller type shall be as follows:

Equipment	Number of Equipment					
	TCS	TD	OTO	R	CO	TPSO
TMS Workstation	1	1	1	1	1	-
ICSS Workstation (incl. PACIS)	1	1	-	1	1	1
FRMCS Dispatcher Terminal	1	1	-	1	1	1
Emergency Hotline Phones	1	1	-	1	1	1
Fallback PSTN Phones	1	1	1	1	1	1
Power SCADA Workstation	-	-	-	-	-	1

TABLE 42 - WORKSTATION EQUIPMENT FOR CONTROL ROOM

- *TCS – Train Control Supervisor*
- *TD – Train Dispatcher*
- *OTO – Offline Timetable Operator*
- *R - Regulator*
- *CO - Communication Operator*
- *"-"– Not provided*

5.8.4.2 The TSCC Contractor shall identify and propose all equipment for the Authority's approval to meet the CHSR OCC operational needs.

5.8.5 Crisis Room

5.8.5.1 A Crisis Room (CR) for the CHSR line shall be provided at the OCC.

5.8.5.2 The quantities of workstation equipment to be achieved for the CHSR line in the Crisis Room shall be as follows:

Equipment	Number of Equipment
TMS Workstation	1
ICSS Workstation	1
FRMCS Dispatcher Terminal	1
Emergency Hotline Phones	1
Fallback PSTN Phones	1
Power SCADA Workstation	1

TABLE 43 - WORKSTATION EQUIPMENT FOR CRISIS ROOM

5.8.5.3 The TSCC Contractor shall identify and propose all the equipment for the Authority's approval to meet the CHSR's crisis operational needs.

5.8.6 Training Room

5.8.6.1 A Training Room for the CHSR line shall be provided at the OCC.

5.8.6.2 The quantities of workstation equipment to be achieved for the CHSR line in the Training Room and for the Trainer and each Trainee shall be as follows:

Equipment	Number of Equipment	
	TR	TE
TMS Workstation	1	1
ICSS Workstation	1	1
FRMCS Dispatcher Terminal	1	1
EAMS workstation	1	1
Emergency Hotline Phones	1	1
Fallback PSTN Phones	1	1
Power SCADA Workstation	1	1

TABLE 44 - WORKSTATION EQUIPMENT FOR TRAINING ROOM

- *TR – Trainer*
- *TE – Trainee*

5.8.6.3 The TSCC Contractor shall identify and propose all additional equipment for the Authority's approval to meet the CHSR's line training needs.

5.8.7 Maintenance Room

5.8.7.1 Maintenance Rooms for the CHSR line shall be provided at the OCC.

5.8.7.2 The quantities of workstation equipment to be achieved for the CHSR line in the Maintenance Room shall be as follows:

Equipment	Number of Equipment
ICSS Workstation	1
EAMS Workstation	1
Power SCADA Workstation	1

TABLE 45 - WORKSTATION EQUIPMENT FOR MAINTENANCE ROOM

5.8.7.3 The TSCC Contractor shall identify and propose all equipment for the Authority's approval to meet the CHSR maintenance needs.

5.8.1 Facility Control Room (FCR)

5.8.1.1 The quantities of workstation equipment for each Facility Control Room shall be as follows:

Equipment	Number of Equipment – Yard Controller (YC)
Facility TMS Workstation	1
ICSS Workstation	1
FRMCS Dispatcher Terminal	1
EAMS Workstation	1
Emergency Hotline Phones	1
Fall-back PSTN Phones	1
SCADA Workstation	1

TABLE 46 - WORKSTATION EQUIPMENT FOR FCR

5.9 Workstation Allocation Rights

5.9.1 The following are workstation access rights for each of the controllers in OCC's Rooms. Each Controller shall be provided with control (C) and display (D) rights for each type of function available in that room. The representations are as follows:

- D' – Display. A controller assigned display capability shall be presented with graphically displayed information regarding the status of this sub-system and shall be able to manipulate the system to obtain additional information.
- 'C' – Control. A controller assigned control capability shall be assigned the same rights as display and shall also be able to output commands from the system to control it. These commands shall be activated principally using icons, menus, on-screen buttons. Command line textual input shall only be used where other forms of HMI control are not efficient.
- '-'– Not assigned.

5.9.2 The control and monitoring rights of each controller in the CHSR line control rooms are provided for indicative purposes only. The number of controllers, their assigned tasks and hierarchy shall be determined through a detailed operational task analysis to be conducted by the TSCC Contractor in the production of the Ergonomic & Human Factors Guidelines.

5.9.3 Control Room

5.9.3.1 The control and monitoring rights for the workstations in the Control Room shall be as follows:

Equipment	Allocation Rights					
	TCS	TD	OTO	R	CO	TPSO
TMS Workstation	C	C	D	C	D	-
ICSS Workstation	C	C	-	C	C	C
FRMCS Dispatcher Terminal	C	C	-	C	C	C
Emergency Hotline Phones	C	C	-	C	C	C
Fallback PSTN Phones	C	C	C	C	C	C
Power SCADA Workstation	-	-	-	-	-	C

TABLE 47 - WORKSTATION ALLOCATION RIGHTS FOR CONTROL ROOM

- *TCS – Train Control Supervisor*
- *TD – Train Dispatcher*
- *OTO – Offline Timetable Operator*
- *R - Regulator*
- *CO - Communication Operator*
- *TPSO – Traction Power System Operator*
- *"-" – Not Provided*

5.9.4 Crisis Room (CR)

5.9.4.1 The control and monitoring rights for the workstations in the Crisis Room shall be as follows:

Equipment	Allocation Rights User of CR
TMS Workstation	D
ICSS Workstation	C
FRMCS Dispatcher Terminal	C
Emergency Hotline Phones	C
Fallback PSTN Phones	C
Power SCADA Workstation	D

TABLE 48 - WORKSTATION ALLOCATION RIGHTS FOR CRISIS ROOM

5.9.5 Training Room

5.9.5.1 The control and monitoring rights for the workstations between the trainer and the trainee in the Training Room shall be as follows:

Equipment	Allocation Rights	
	TR	TE
TMS Workstation	C	C
ICSS Workstation	C	C
FRMCS Dispatcher Terminal	C	C
EAMS workstation	C	C
Emergency Hotline Phones	C	C
Fallback PSTN Phones	C	C
Power SCADA Workstation	C	C

TABLE 49 - WORKSTATION ALLOCATION RIGHTS FOR TRAINING ROOM

- *TR – Trainer*
- *TE – Trainee*

5.9.6 Maintenance Room

5.9.6.1 The control and monitoring rights for the workstations in the Maintenance Room shall be as follows:

Equipment	Allocation Rights
ICSS Workstation	C
EAMS Workstation	C
Power SCADA Workstation	C

TABLE 50 - WORKSTATION ALLOCATION RIGHTS FOR MAINTENANCE ROOM

5.9.7 Facility Control Room

5.9.7.1 The control and monitoring rights of each controller in the Facility Control Room shall be as follows:

Equipment	Allocation Rights YC – Yard Controller (YC)
Facility TMS Workstation	C
ICSS Workstation	C

Equipment	Allocation Rights YC – Yard Controller (YC)
FRMCS Dispatcher Terminal	C
EAMS Workstation	C
Emergency Hotline Phones	C
Fall-back PSTN Phones	C
SCADA Workstation	C

TABLE 51 - WORKSTATION ALLOCATION RIGHTS FOR FACILITIES CONTROL ROOM

APPENDIX A TO EXHIBIT 5(M) OPERATION CONTROL CENTER (OCC)