

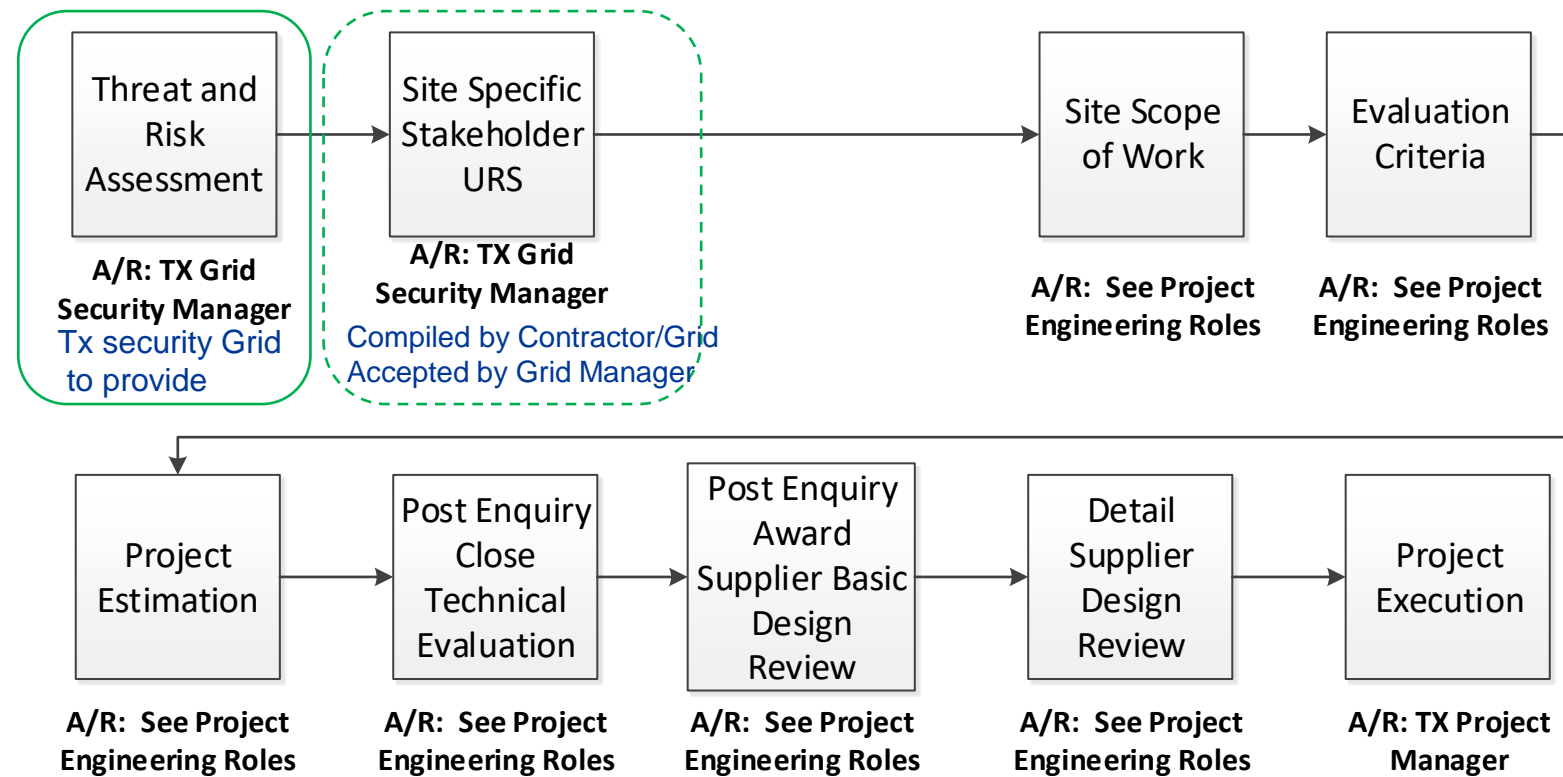
# TX Secondary Plant Physical Security Engineering Doc User guide for IPP/EPC

Rev5 v3

11 August 2023



# EPC/Self build Security Project Process (RACI)



## Notes:

EPC/Self build entity assumes full accountability of contractor risk at Basic Design Review.

For any URS not covered by the specification provided, the solution can be approved at DRT at basic design review.

Maintenance, Spares and Training contract required for 5 years post construction. [240-170000723](#) must be include for all turnkey projects.

NB: It is NOT necessary to document a site specific sow. The completion of the following annexures is sufficient.

[240-170000258](#) Annex C – Project Scope Selection for IPSS projects to be completed based on URS together with the site layout diagram.

[240-170000192](#) Annex B: NLEPDS Project details for IPSS projects to be completed based on URS together with the site layout diagram.

- a) For integration to TX Security Control Centre (Zero Control) see section 3.10 and Annex E of 240-170000258.
- b) 240-170000086 Roles and Accountabilities For Lifecycle Management of Physical Security Systems In the Transmission Division.
- c) **Please include a line in the pricing schedule for the services identified in 240-170000723 for a period of 5 years for every new installation. For turkey projects where the integrated physical security is a component of larger civil/substation project, the overall technical criteria weight must be applied to the score from the criteria below.**

The following documents and standards are in place for an Integrated Physical Security system and are to be used for any future enquiries.

- a) 240-170000258 Scope of Work for Integrated Physical Security System rev 4
- b) 240-170000257 Technical Evaluation Criteria for the Integrated Physical Security System
- c) 240-170000723 Generic Technical Requirements for Physical Security Technologies Contracts
- d) 240-86738968: Specification for Integrated Security Alarm System for Protection of Eskom Installations and its subsidiaries
- e) 240-91190304: Specification for CCTV Surveillance with Intruder Detection
- f) 240-102220945: Specification for Integrated Access Control System (IACS) for Eskom Sites
- g) 240-170000098: Security Public Address Systems for Substations and Telecoms High Sites
- h) 240-170000096: Rev 1 Physical Security Integrated Standard
- i) 240-170000691 Standard for Intrusion Pre-detection Systems Used at Eskom Sites
- j) 240-170000614 Cyber Security Controls Guide for Physical Security Systems

Site specific SURS	Inner and outer fences with Electric fence in-between	Electric fence and other civils	Electric Fence and other security (Alarms, CCTV, intrusion detection etc.)	Electric fence only.
PTM&C Planning Engineering Lead			X	X
Substation Engineering Lead	X	X		

- a) The engineering accountability for Non-lethal Energized Perimeter Detection Systems (NLEPDSs) are split between the electrical/electronic components (energiser, controllers, bare electric wires) and civil components (poles, anti-tunneling/vegetation control slab and access gate)
- b) Other civils include, but not limited to, access control building, access roads, security lighting etc.
- c) The above table reflects the agreed design engineer project lead accountability between PTM&C and Substation Engineering CoE's within Power Delivery Engineering based on the Stakeholder User Requirement Specification (SURS) for the site.

## Accountable Engineering Discipline

Project integration Department for overall project engineering co-ordination.

PTM&C Planning Engineering for fence integration to RTU, energizer and wiring

Substation Engineering for all civil work

PTM&C Technology and Support for technical design consultation

The engineering documentation pack must include the following documents:-

## PTM&C

- [240-170000192](#) Generic PTM&C NLEPDS SOW rev 3
- [240-134779125](#) Generic PTM&C NLEPDS evaluation criteria rev 6
- [240-78980848](#): Specification for Non-Lethal Energized Perimeter Detection System (NLEPDS) Electrical Components (excludes civil components)
- [240-170000723](#) Generic Technical Requirements for Physical Security Technologies Contracts
- Kiosk Drawings ( [Request a copy of the drawings](#) )

## Substation

- [240-170000109](#) Generic Substation civil evaluation Criteria
- 0.54-8282 - Non-lethal fence drawing Specification ( [Request a copy of the drawing](#) )
- [240-139282493](#): Security Lighting for Eskom Applications (referenced for interfacing/automation component with Electric Fence Zones)

**Combined technical evaluation criteria to be obtained from Engineering Integration Department or as per the evaluation criteria used for the overall RFP to market (must include a weighting for physical security)**

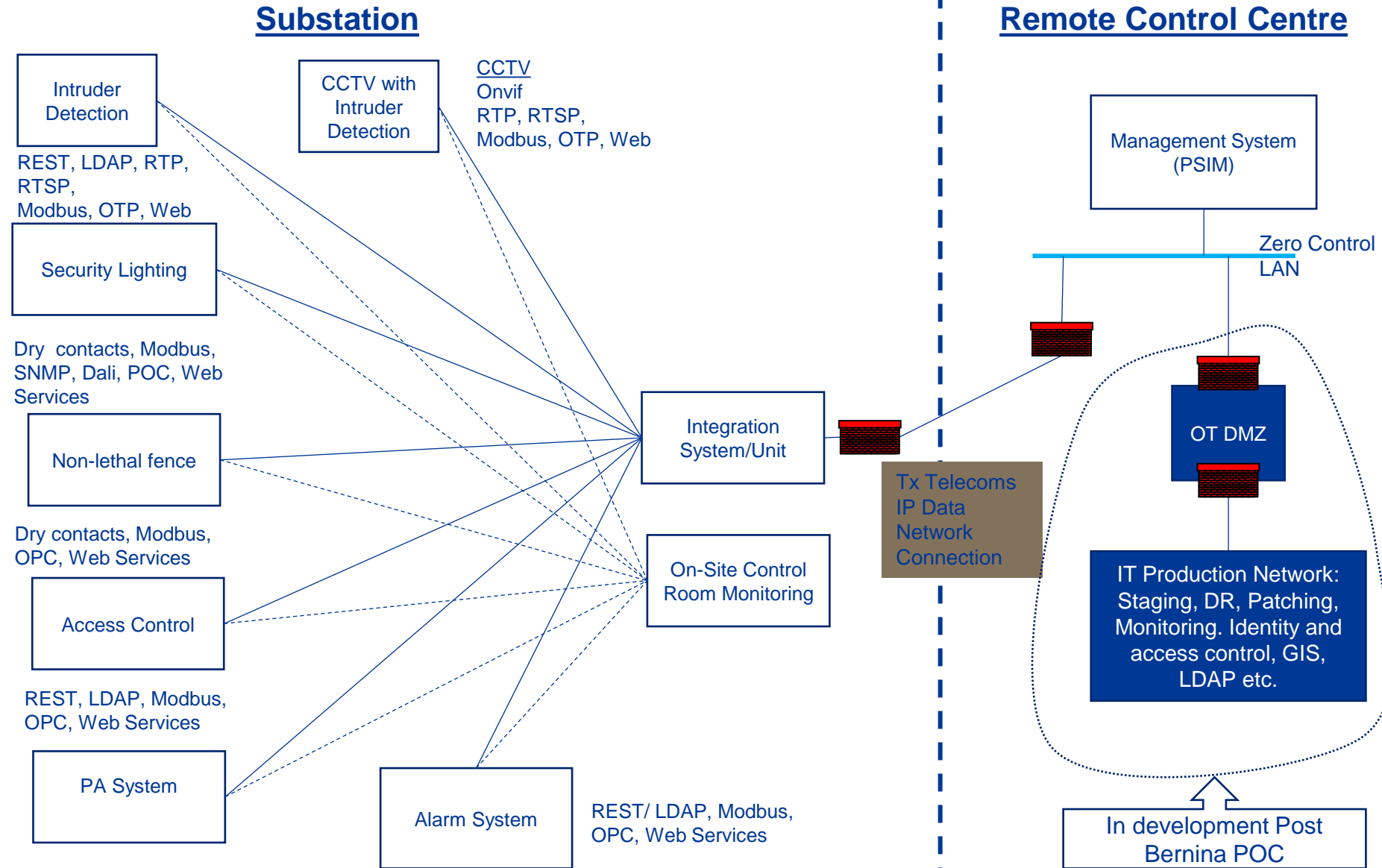
- a) Post installation and commissioning, Eskom Grids, as the plant operator, need to operate and maintain the systems.
- b) Provision must be made for a 5 year Maintenance and support agreement as part of the enquiry to the market.
- c) Eskom and the developer will work together during the developer's procurement process to ensure that it is possible for Eskom to enter into a reasonable maintenance and support contract with the selected supplier / OEM before concluding the contract to execute the construction.
- d) Grid Operations and Technology must review the scope and evaluate the tender responses, to select the appropriate maintenance and support tender.
- e) The Eskom project manager must obtain the necessary sole source approval.
- f) Eskom Grid/Operations must arrange for the associated budget letter and initiate the PR for the services.
- g) The appointed buyer must then seek PTC for approval for the 5 year Maintenance agreement.
- h) **Handover over of the assets can only happen when the 5 year Maintenance contract is signed.**

N.B. This requirement is applicable to EPC contracts as well.



- a) The concept design for the security systems must be presented at the PTM&C Sub-DRT based on the Threat and Risk assessment and the Stakeholder User Requirement Specification prior to issuing to market.
- b) Following contract award, the basic design, followed by the detail design must be presented to the PTM&C Sub-DRT for acceptance and authorisation for implementation. Technologies not previously accepted by the PTM&C DRT must be presented at the committee prior to implementation.
- c) It is possible to combine basic and detail, however it is not recommended since it helps avoid major rework during detail design development.
- d) The presentation would normally be based on a detail design report (word document) for detail design and must include relevant drawings. The format is as per Annex B in the SOW document. [240-170000258](#)
- e) These documents will then be updated to “as built documents” prior to project close out and asset handover.
- f) The PTM&C Sub-DRT Chairperson : Mario Petersen [PetersMA@eskom.co.za](mailto:PetersMA@eskom.co.za) for latest presentation template and meeting dates.
- g) The-PTM&C DRT Secretariat : Elizabeth Thekkekkottaram [ThekkeED@eskom.co.za](mailto:ThekkeED@eskom.co.za) for latest presentation template and meeting dates.

# Future view: Integrated Physical Security System







## Conclusion