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CAREER EPISODE 1

a) Introduction:

CE 1.1

The first career episode is the explanation of the project "Optus Network" which was conducted in September 2019 and is still in progress. During this tenure, I was working as a Sr. Customer Service Executive (Network Engineer) in the TATA CommunicationsTransformation Services(TCTS). The project is located in Sydney, Australia.

b) Background:

CE 1.2

Optus is awell-known telecommunication Australian company and second-largest wireless carrier in Australia and provides services related to different products like Voice, Mobile, Core, and fulfill the demand of their customer by using various topologies i.e. Fibrenetwork topology, NGTT carrier ethernet network, NGTT+ carrier ethernet network, NGTT+ core network, NGTT+ carrier ethernet regional network, metro NGTT+ DWDM rings, access network – mobile, RTN radio management via Huawei, and Ceragon-RTN management. The Optus contracted with the TCTS for the proper planning, designing, and implementation of the Optus Network in the areas DWDM, Carrier Ethernet(CE), Fibres, and IP/CPC.

CE 1.3

The following duties were assigned to me:

- Involved in the Core transport design to create IP links between various core aggregators, distribution aggregator, and access aggregator including various scenarios which include Alcatel, Cisco, and Juniper L3 devices.
- Developed design for core IP-transport network and transmission network of metro, regional, and IOF/backhaul using optical fiber and DWDM.
- Managing the field jobs created by the designer in Spatial WEB by using Spatial Net administration tools.
- Responsible for record management for Fibre designs, as-builts, DART, DBYD,

transmission, ISP, IOF mobile equipment inventory quality checking/auditing.

- Coordinating with different vendors i.e. SAED managers (Huawei, Nokia, Ericsson, Lend Lease) providing receiving by auditing the latest CAD files for Mobile sites.
- Managed the CAD & DMS dropbox (Fibre design, Network & DMS Vault Records)
- Prepared level 5 documents for CAD team products with in-network records group and got approval from Optus management such as Bs provisioning, RECRD_UPDT, Tx equipment with fiber.

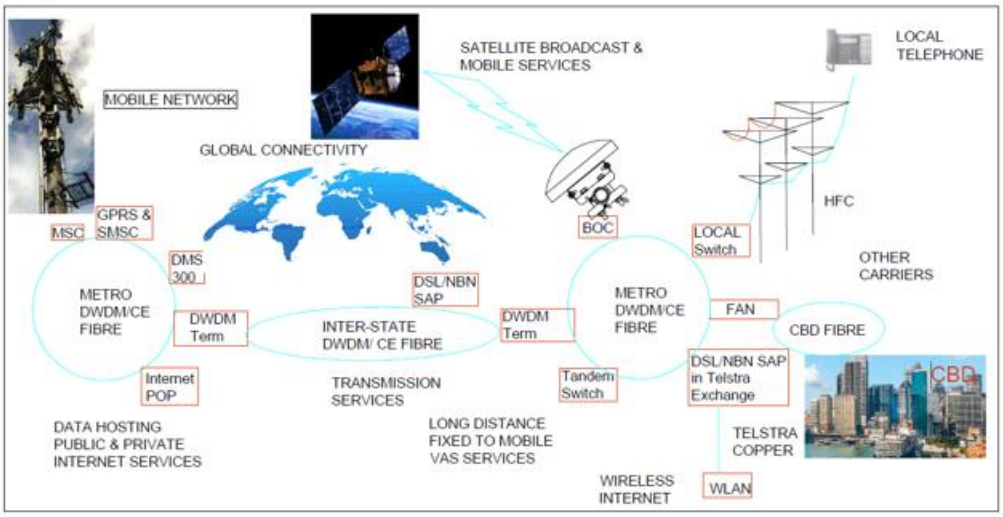
CE 1.4

Organizational Hierarchy:

c) Personal Engineering Activities:

CE 1.5

To initiate the project properly, I first had to organize and plan each activity and understand my roles and responsibilities. For this, I first arranged a meeting with the general and senior manager to comprehensively discuss the project objectives and planned the activities to design the Optus network and then, I developed the team of intellectual engineers i.e. provisioning team, cad team, and core team, mobile, customer design teams, data fill team, etc. I assigned them their particular tasks by explaining the client's major requirement, project objectives, duration of each task, and also instructed them to create the progress report so that I can easily track the progress of the overall project. After finalizing the team, objectives, project activities, standards to be followed, and implementation strategies, the following figure was developed which shows the overall view of the project:



CE 1.6

My first task was to perform a complex migration design from the old Juniper router to the new Juniper Routerat one of the biggest Optus exchanges in Blacktown. To execute this task, I first requested all the relevant documents and reportsfrom the planning and field team i.e. scope of work (SOW), links matrix, and effect of failure report. I thoroughly studied these reports to get in-depth information about all the IPlinks including the transmission methods used in between those linksand how many types of links were there and how many child objects were currently present there? What interfaces are involved in all these links?After collecting enough data on the old Juniper router,I conducted technical analysis by using MS-Excel and Optus dedicated Tool Helix. The technical analysis showed a lot of data integrity problems in survey and planning inputs, which means I found out that there a lotof missing data that must be included by the planning team has in their SOW and Link Matrix to get the quality design output.

To avoid this problem, I fetch the live data from Network Management System (NMS) and comparedit with the planning documents and Helix. Duringthe comparison, I investigated all the 113 circuits that need to be designed under that task and noticed that there was a total of 87 circuits thatwere not aligned as per live network data fetched from NMS. Now to fix the data, I preparedthe report by updating the same Link Matrix my additional findings according to my analysis with the help of Helix, MS-Word, and MS-Excel and then sent that report to the planning team and project management team for their review.After few days I got updated and refined input from the team and then I started working on the complex design for Juniper Router Migration. But, before starting the assigned task, I decided to analyze the data again and broke down the work into three batches based on my design and technical skills. The division consisted of 15 circuits (100G SMOF), 38 circuits (100G MMOF), 60 circuits (10G SMOF). After that, I started my design with 100G circuits by using Optus design tools Helix, VMR, SpatialWeb, and Map Blaster for the Migration activity.After completion of every batch, I rechecked my work by downloading the reports from Helix and use my analytical skills to verify the work done in that batch. Also, I submitted the design to the Optus program and delivery team for review to Optus before its implementation and they approved my design and appreciated the work because everything was crystal clear for the field team to implement the migration activity on the live network.

CE 1.7

I worked on another very complex product called Network to Network Interface (NNI) design for

Optus. For this, I had to create a Link Aggregation Interface (LAG), however, most of the time LAG Interface didn't match with live provisioning data due to data integrity problems,and to cope up with this situation, I had to work in collaboration with the design team to fix this problem which will cause project delays or increase of the project cost because it's a kind of a re-work for design team which is a bit of lengthy process. That's why, to avoid time wastage and over expenditures, I used my analytical and problem-solving skills to create the template by using another Optus tool Putty which automatically fetches the live information from NMS. Then, it would be easy for the designer to verify which LAG Interfaces had been used already and can use the next free LAG interface to avoid re-work. This technical and systematic approach solves the data integrity problems for LAG interfaces and saved a lot of time from re-work.

CE 1.8

To develop the Optus Network, I first calculated the average handling time (AHT) required for the designing of every single Optus product in the core network. However, it was a challenging task for me as itwas directly impacting the cost for my company. I again used my technical skills and created a simple excel Template that has a start and stops button in it and when I had to startworking on a particular product, I clicked on the start button, and after finishing the task, I clicked on the stop button. Hence, this tracker easily calculated the AHT for the particular product. However, if any product is lengthy, means extra time is needed to calculate AHT, so, I added the break time in this process, such as whenever I started the work, I clicked on start but when I needed break, then I clicked onthe stop button and once I resumed the work, I again clicked the start and so on.This start and stop created a separate entry always and at the end, I simply summed up all the entries to calculate the AHT for the respectiveproduct.Before submitting the AHT report, I added a 20% buffer in my calculations based on the individual performance or complexity so that management can use that calculation to quote their prices accordingly.

CE 1.9

I coordinated with the field techniciansand attended meetings with stakeholders to track and review program delivery and action items accordingly. Also, I monitored their activities at every stage of the project and assisted them in their task so that they can accomplish the targets. Further to this, I also communicated with different vendors, such as SAED managers (Huawei, Nokia, Ericsson, Lend Lease), and discussed with them the auditing latest CAD files for mobile siteswhich contains whole information about the mobile tower/site. I checked the status of the file whether it is with Optus or checkedout to a different vendor.

CE 1.10

I used my engineering knowledge in developing/document technical standard work instruction and detailed work plans with design guides to ensure all engineering and operational requirements are well met.I was also involved in the documentation process, i.e. before starting this project's particular tasks, such as (new Bs provisioning, Tx equipment with fiber, RECRD_UPDT &disconnect orders), the management team requested me to prepare specification/guidelines documents i.e. level 5 documents for CAD team which were approved by Optus coordinator. These documents were aimed to help new team members to complete the above-mentioned tasks in Spatial records.

CE 1.11

d) Summary:

CE 1.12

In this project, I applied my engineering knowledge and professional experience to understand the optimization and maintenance of telephone and broadband networks. Also, by implementing the latest techniques, I created IP links between various core aggregators, distribution aggregators, and access aggregators including various scenarios which include Alcatel, Cisco, and Juniper L3 devices.

CAREER EPISODE 2

a) Introduction:

CE 2.1

My 2nd career episode is related to the project "NBN (National Broadband Network) which was started in October 2017 and completed in August 2019. I performed all my duties on this project as a Sr. Network Designer (NBN) and I worked on it during my job with the TATA Communications (TCTS), Sydney, Australiawhich is well-known due to its multiple technology projects for FTTB, BSOD, FTTC, FTTP, FUSION FTTN, etc.

b) Background:

CE 2.2

This project aimed to design the NBN to operate Australia's wholesale broadband access network intending to connect Australia and bridge the digital divide and its objectives were to ensure all Australians have access to high-speed/fast broadband network as soon as possible by using the various combinations of the fixed wireless, satellite technologies, and fiber. Fundamentally, National Broadband Network (NBN) aims to foster productivity and provide a platform for innovation to deliver economic and social benefits to 100 percentof Australians. NBN engages with several different stakeholder groups across Australia to roll out a multi-technology mix network and cost-effectively build the network using the technology best matched with each area of Australia. The TATA Communications (TCTS) NBNTM Network Delivery Project used FTTB (Fibre To The Building), FTTN (Fibre To The Node), FTTP (Fibre To The Premises), FTTC (Fibre To The Curb), and HFC (Hybrid Fibre Coaxial).

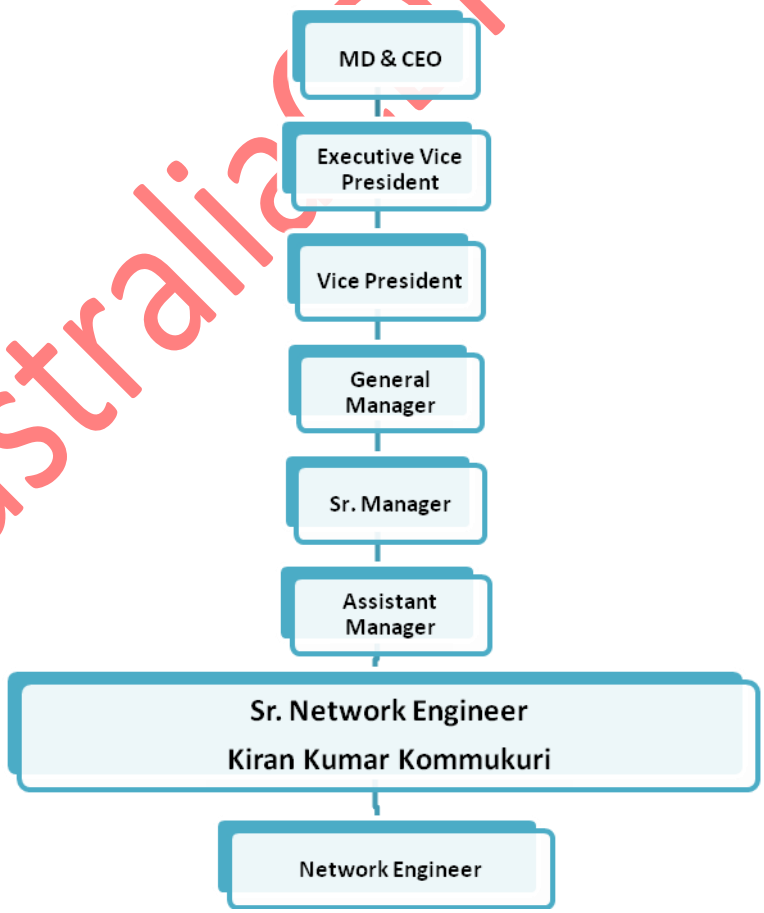
CE 2.3

I worked on the following assigned tasks:

- Conducted the joint survey to collect walkout data and developed both preliminary as well as final design according to client specification for design documentation.
- Performed end-to-end designing of FTTB, FTTN, Fusion, BSOD designs by using NBN technical specifications and regulatory requirements.
- Carried out end-to-end delivery services i.e. detail designing of Mapinfo, Construction Plans, FIR, Costing of Project (Bill of materials & Bill of quantity files).
- Assessed a copper solution as well as fixed the feedback queries received from the client.
- Reviewed enough power in RF signal throughout a network to the premises of the customer.
- Delivered the prepared design within budget, ontime, and as per quality standards.
- Assessed newly and existing extended areas as well as planned for HFC network of required premises.
- Generated team utilization reports, monitored project milestones, and liaised with relevant departments to address/resolve issues.
- Coordinated with land access team, surveyors, and field managers to ensure project priorities are being met and issues are being addressed.

CE 2.4

Organizational structure:



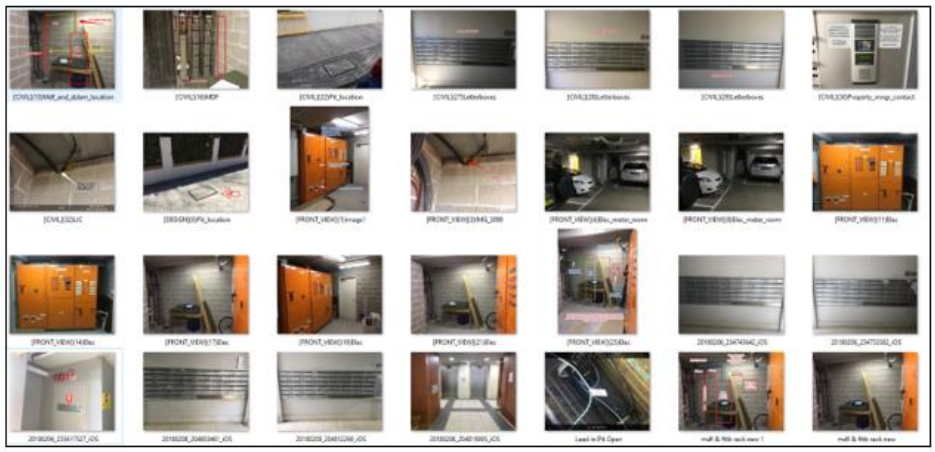
c) Personal Engineering Activities:

CE 2.5

Before initiating the assigned activities, I understood the project's scope of work and thoroughly studied the contract document and requirements of the project client. Afterward, I called the kickoff meeting with the assistant manager, general manager, and senior manager to discuss the project tasks, strategies to finish all tasks on time, roles and responsibilities of the team, and then at the end of the meeting, I also arranged a question and answering session with the team to clear everyone doubts/confusion regarding the project. I selected the best team for this project by identifying their potential skills, knowledge, etc., and accordingly assigned them the tasks. After this, I arranged a team meeting with them to explain all the initial details and also shared the site plan with them. I discussed their roles indetail and also gave them safety orientation in which, I instructed everyone to take care of themselves while performing their routine activities and considered OSHA standards. Hereafter, I conducted the field survey of the area along with the survey team, then prepared both the NBN's preliminary as well as final design according to the requirements of the client. I developed the NBN (National Broadband Network)as perTelecommunication Act legislations1997 as well as made a few amendments/modifications in the network system design as per Telecommunication Amendments Legislation Bill 2010(Fiber Deployment) and then created the detailedprogress report on NBNCo and afterward implemented this project.

CE 2.6

While working on the NBN project, we got an extremely complex FTTB design for Westfield Hornsby NSW. To thoroughly study the design complexity, I downloaded the survey input and survey output data from the Downer portal (construction partner for this project)and analyzed the data based on my technical and analytical design skills. The data consisted of a photo pack, word documents, and excel filesi.e. in survey input, I analyzed the LIFD1, DBYD, Google Map, etc. while in survey output, I checked the MUD map, HSD cable pathway, X&C cable pathway, power connection photos, cabinet location photo, MDF location photo, SL evidence photos, LIP photo, and site survey checklist.



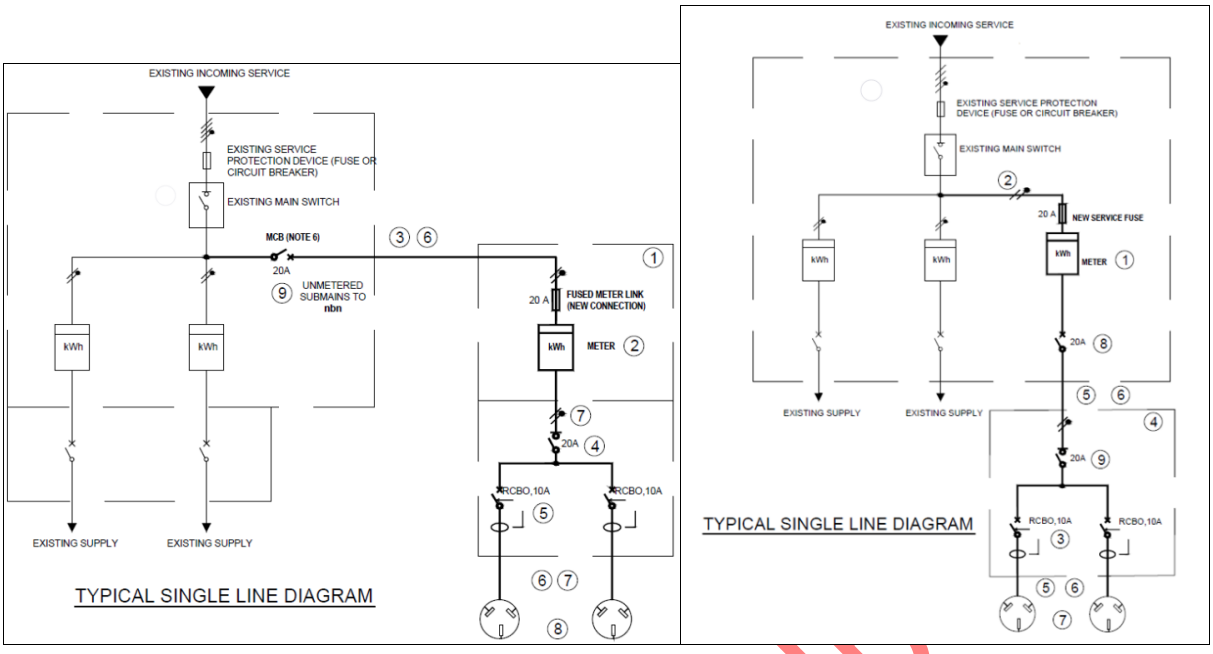
I also checked the proposed MDF location, SL information and SL evidence photo, rod & rope information, MUD map details, etc.While analyzing the data, I realized that there was a huge difference between data of photo pack and excel files and also noticed thatthe survey wasn't done properly with the actual no of users available in Westfield which was very critical for me because I had to plan and design the DSLAM cabinets based on the number of users at a particular site. Then, I arranged an instant meeting with the manager and explained the severity of this matter to him. The manager suggested to me to visit the Westfield site along with the survey team to identify the bottlenecks so that the design will be made according to NBN Standards.For this, I first studied the site layout

plan along with the list of all the shops, offices, and kioskswhich will help me to identify the actual no of users over there. After thoroughly studying the documents, I did a technical analysis by using MS-office and from the analysis, I found out that there wasa total of 610 users who were not included in the shops, offices, and kiosks and based on that analysis it a multi DSLAM project which required 2 DSLAM/cabinets to serve all the users as per NBN guidelines.

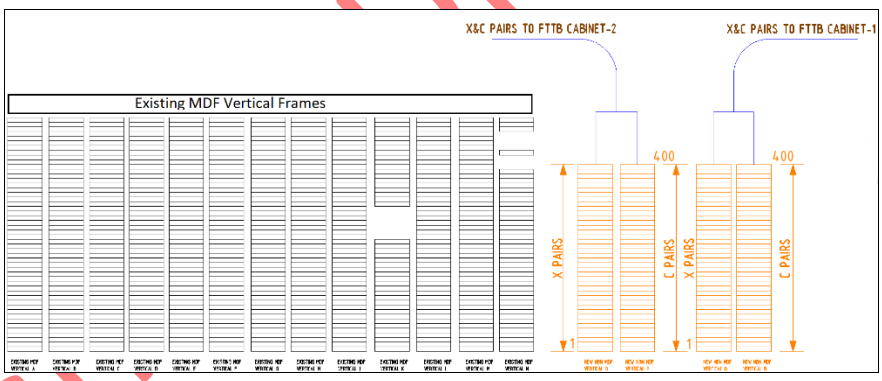
From here, I decided to complete my Westfield design with 2 DSLAMs by using engineering tools of AutoCAD, MapInfo, Google Earth, and SpatialNet because the site was identified as greater than 372 EUP/serviceable locations, so it hadto be provisioned with multi DSLAMsto meet EUP numbers as per design requirements.First, I allocated an even spread of EUP /Serviceable locations across the multi DSLAMs where possible, to allow forfuture capacity and essential services and commercial units to be accommodate and if required and possible rounding up to thenext full LT card.As a DSLAM will be served a total of 190 locations, then it needed 5 LTs to allow adequate spares, that means 50 spare ports.So, I developed the MPS (Multi Premises Site) physical structure for splitting EUPs DSLAM allocation by the most efficient means, for example Tower 1 floors 1-20 to DSLAM 1 and Tower 1 floors 21-30 and Tower 2 floors 1-15 to DSLAM 2. The allocation of EUPs was split by floors because there was no logical building split. I associated the EUP/Serviceable locations with a floor level of a building/tower of the MPS, in such a way that when any order placedthey can be raised against the next available port on the EUPs associated DSLAM.After this step, I proposed the cabinets at FTTB sites based on number of customers/SL's and possible locations at customer premiseswhich is shown in the below table

Table 1. FTTB active equipment solutions port capacity Active equipment type	Maximum port capacity	Maximum designed serviceable locations
Compact Sealed DSLAM (CSD) (internal/external)	48	45
CSD pedestal (external)	48	45
MX-6 7363 192 Port DSLAM	192	180
7330 DSLAM 192 port node/cabinet (carpark/external)	192	180
7330 DSLAM 384 port node/cabinet (carpark/external)	384	372
7330 DSLAM rack mounted	384	372
7330 DSLAM wall mounted	384	372

Hereafter, I had to determine the available power options for FTTB designs architecture, I created external cable route from MPT to building entry point (BEP) and get the aerial view of HSD cable route which showed pit and pipe network information along with photo markers. Then, I created internal route from BEP to FTTB cabinet as per NBN standards and field inspection reports and proposed power & earth cable route from electrical meter board to FTTB cabinet. I came across that there was a total of 9 power options. Based on the site, I proposed one power option out of these nine options which is represented by the following diagram,



Then, based on consolidate Photo packs (External/Internal Fibre and X/C cable routes, Power cables route along with Power board, SL confirmation photos Letter box evidence and any essential services life), I prepared the interconnection table or termination of X and C-pair cables on MDF and developed the MDF layout schematic. By following the above-mentioned steps, I created the final Multi DSLAM site layout



Then, I submitted the design for review to the NBN team and they approved the proposed solution.

CE 2.7

After resolving the above problem, I encountered other issues related to extended pathology (property) in the Hornsby medical center which already had an existing network. Here,I found out that it didn't haveadequate capacity for feed pathology and it would be costly to give service to newly extended properties (pathologies) if there's notappropriate RF signal [11.5 (decibels relative to one millivolt) at an85 Megahertz and 18.5 dBmV at a 750 MHz] in the already existing branch and it will require predominantly new cables and ducts all-aroundanewly extended property and council permissions to do trenching, BOM and BOQ. To further analyze the reason for this issue, I communicated withthe FIR team and it was identified by themthat while validating all addresses, they noticed that it was not properly planned initially with enough capacity to make a future extension. Therefore, to cope with this situation, I decided to again design it by eradicatingthe terminator on an existing tap9

ofthe medical center as well as extended it with a newcoax cable to the premeditated tap in the pathology. I planned the installation of RG6 cable i.e. from a tap to PCD (premises connection device)witha suitable RF level of the signal. Afterward, I took the opinion of myteam to maintain additional/extra devices at a commercial premiseintending to evade additional costsfor construction and re-design.

CE 2.9

I instructed all the workers on the site to use the anti-static straps while working with the telecom equipment and also put my utmost focus on a live power connection and for this, I issued a short manual from the vendor team and suggested the workers read it thoroughly before initiating power connection work. Also, I handled properly the optical line termination and transmitter for the optical network by turning off a laser source. Furthermore, prior to initiatingtransportation and other activities at the project area, I ensured proper implementation of health and safety rules and regulations during the field survey and drive test and no one was allowed to climb an MW tower or masts during windy or cloudy weather. Moreover, I used PPEs, such as head helmets, safety belts, and light sources, and hired certified or trained riggers for the alignment and installation of the outdoor antenna.

CE 2.10

For FTTB, FTTN, Fusion, BSOD projects, I calculated the BOM & BOQ based on the planning and then designed the particular site which is based on the NBN design and telecommunication standards.I created a semi-automated Excel file to calculate the Bill of Material and their quantities. Also, throughout the project tenure, I coordinated with different departments and communicated with offshore teams via emails and meetings and assisted them in their assigned tasks of designs (FTTB, FTTN, BSOD), and reviewed quality for their deliverables. I continuously monitored the project progressand milestones. I also made the team utilization report by visualizing the workload of the team in the specified time.

d) Summary:

CE 2.11

In this project, I applied my engineering knowledge to analyze and validate survey/scoping reports prior to the designing-based architecture and as per customer standards and used my technical skills and engineering skills to resolve the problems and uproot them completely. This project boosted my confidence by interacting with different departments and polished my analytical skills.

CAREER EPISODE 3

a) Introduction:

CE 3.1

This career episode is the in-depth illustration of my project "GIS Data Maintenance" which was performed during the tenure of October 2011 to July 2014 for the "**Ausgrid, Australia**". I worked on this project as a Sr.GIS Engineer and it was geographically located in Sydney, Australia.

b) Background:

CE 3.2

Ausgrid will continue the 100-year tradition of managing a safe and reliable electricity network. Ausgrid is a state-owned corporation whose shareholder is the New South Wales Government. The Ausgrid electricity network provides power to 1.6 million homes and businesses throughout Sydney, the hunter, and the central coast. That network is made up of more than 200 large electricity substations, 500,000 power poles, 30,000 small distribution substations, and almost 50,000km of below and above ground electricity cables. This project shows the building and designing of the Ausgrid electrical network which will be uniquely consisted of both distribution and transmission systems. The transmission network is a sub-transmission system with 66kV, 132kV, and 33kV assets and it was consisted of

1) 132kV lines which were operated properly in support of and parallel to TransGrid's transmission network
2) The substations were connected also to these lines

The distribution network was comprised of

1) A distribution system of highest voltage with 11kV, 22kV, and 5kV assets
2) A distribution system of lowest voltage with 240V and 415V assets

CE 3.3

The project's key aim was to provide reliable and safe electricity service intending to maintain a power supply of high quality to customers. The following are the project's main objectives:

- To develop therequired format for design plans of electrical works by obeying standards of quality, safety and consistency to provide adequate information/dataso that all intended works will be cost-effective and constructed in such a way that meet allAusgrid requirements.
- To provide the Ausgrid's Network designers with the main requirements which will help them to get approval for their proposed works mention in the design plans.

CE 3.4

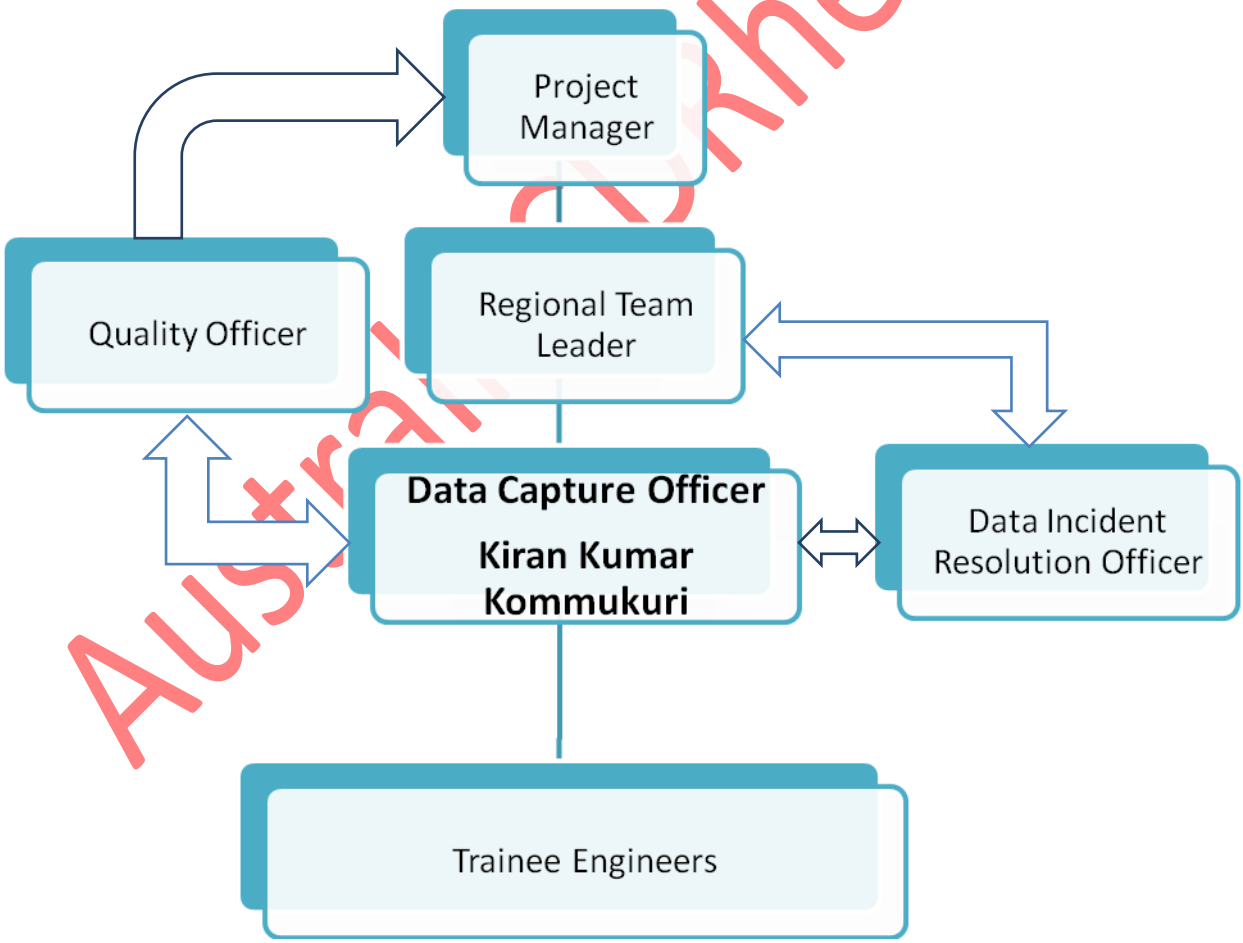
The following duties were done by me:

- Drafted new distribution pillars, service connections, and substation installations.

- Prepared drawings for electrical network changes according to paper sources termed as system alteration order (SAO) and Field Book (FB).
- Reported any network isolation, interconnected substations, incorrect power ratings, missing switches,etc. to the team leader.
- Participated in the regular meetings to discuss the project progress and technical issues.
- Capturedall drawings in the GIS within three days of the commissioning.
- Ensured the quality of datawhich was designed as well as stored in the GIS as per quality standards.
- Arranged meeting with the quality assurance officers to discuss all encountered quality issues, and brainstorm to remove these issues.

CE 3.5

Organizational Hierarchy



c) Personal Engineering Activities:

CE 3.6

First, I attended the meeting to understand my duties and requirement of the client. Also, I coordinated with the project team and we discussed the project work and tasks to be accomplished within the required duration. During the meeting sessions, I jotted down important points and techniques in the notebook and also applied them while performing my task. Then, after comprehensivelyunderstanding and acknowledging my duties, I commenced the project work.

CE 3.7

Initially, I reviewed the paper sources i.e. FB and SAO to extract the information of new electrical network updates or installation, and also checked the discrepancies in the drawings given in the paper source. After noticing few discrepancies, i.e. there was no proper open point represented at a substation in SAO or FB which will create the interconnected circuit. For this, I communicated with the field engineers to obtain clarification on the asset details, means what type of assets they had installed based on the specification/requirements.Then, after obtaining the sources, I developed the 2D drawings of LV/ HV circuits in software such as Small World and AutoCAD and with the help of these drawings, I carried out drafting of ZONE substation switches and distribution substation, circuit breakers, and bus bars which are shown in the below figures:

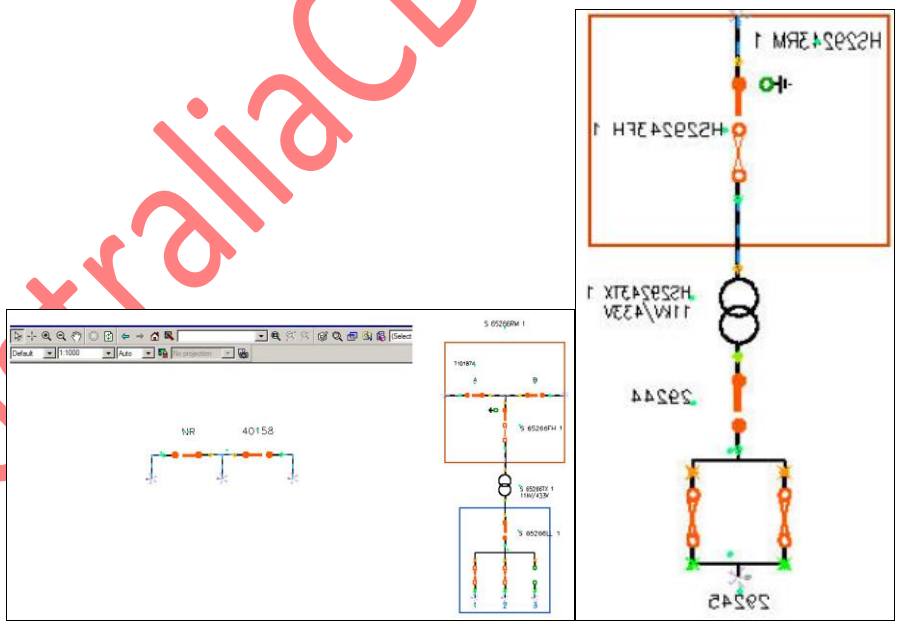


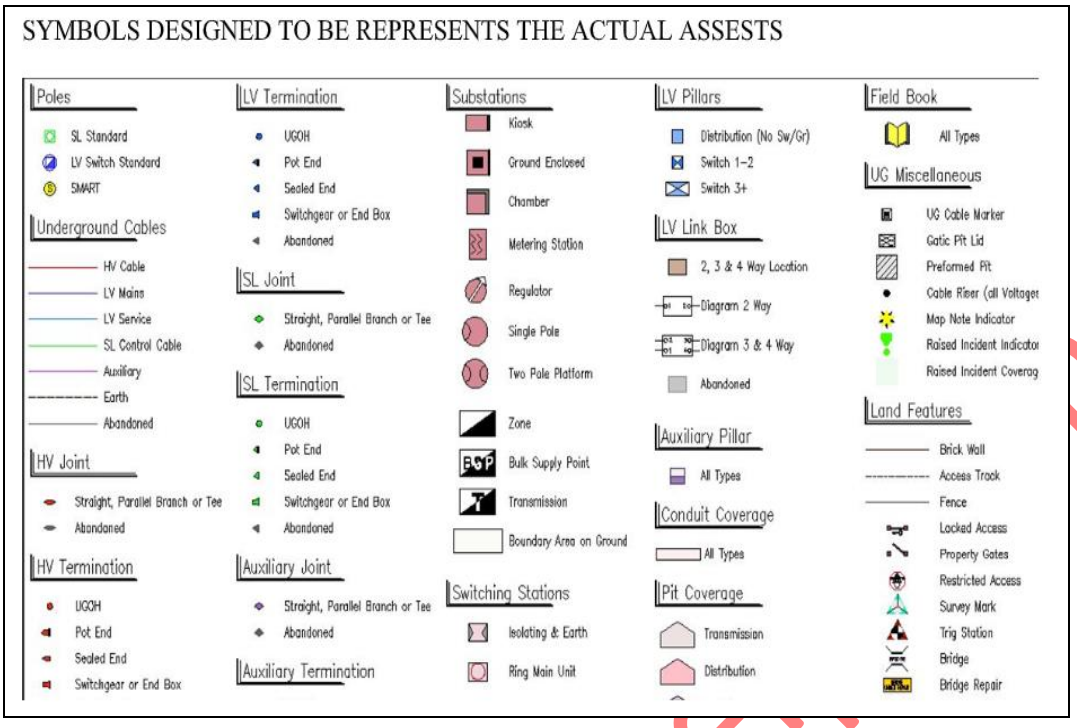
Figure 1 Distribution substation

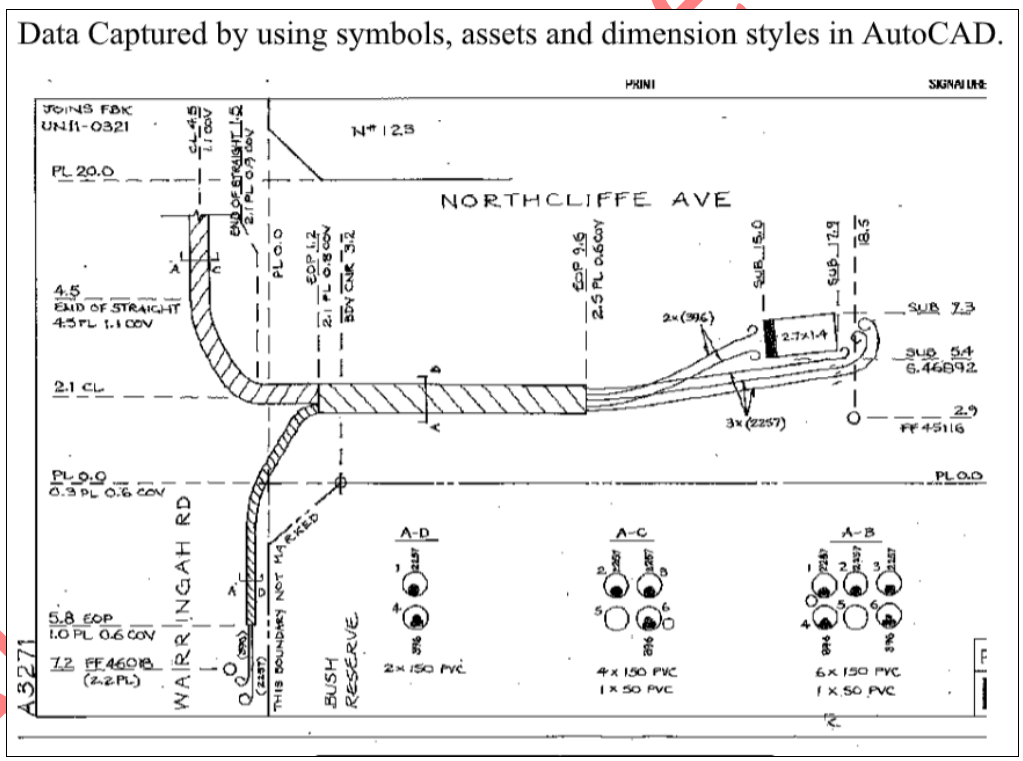
After this step, I performed the QA/QC ofthe electrical network according to the Ausgrid checklistin order to examine the network's HV/LV connectivity.Then, after making a few circuits' network changes, I generated the Geo Schematics and it showed single-line figures for the

electrical network which represented 132kV switchgear comprised of 2 (two) transformer feeders, 8 (eight) outgoing feeders, and 2 (two) bus coupler circuits, and 2 (two) bus sections. Here, I provided additional 8 (eight) outgoing feeders and 2 (two) transformer feeders to made future amendments, and in this way, provided space for future equipment in the design.Next, I designed the zone substation according to the Ausgrid standards. For this, I first developed the typical substation layout by considering the overall dimension area of the substation as 320 meters * 270 meters containing temporally site offices, storage area, etc. Then, I connected the 312kV outgoing GIS feeders with the 132kV Over-Head Transmission Lines. The 132kV side of the transformers (250/3MVA) was led by a power cable of 132kV which was then connected with 132kV GIS. I arranged the 132kV outgoing GIS feeders as; 8 (Eight)over-head transmission lines wereprovided with a Gantry tower in the substation. Then, I carried out drafting of 132kVtransmission feeder network and 66kV, 33kV sub-transmission network-initiated from Transmission substation or Bulk Supply Point (BSP) or switching station.

CE 3.8

I faced a problem related to the numerous cables which were coming out directly from a Zone substation as well as passing into various directions, also crossing over one another via pits and made it difficult for me to find out all HV cables which were passing and connected between two substations, given in the following figure. To combat the situation, I used the Tracing methodology and determined the precisecopper cable position between substations, and also by using this method, I carried out capturing of the following data in a GISi.e. I checked for accurate locations of substation changes, new service connections provided from a network to the houses, network extension from an existing joint and placement of new joints for future use, and location for the installation of underground pillars or modification of the existing pillar.





CE 3.9

Another problem occurred while updating a design/ as-built changes in the Network Inventory Management System (NIMS) because it was too much difficult to review all details mentioned in schematic diagrams for identifying a location in the NIMS with as-built sources. To perform this task, I had to spend maximum time on identifying the accurate location at an initial stage. Because of this, I will encounter a huge delayin terms of failing to provide on-time delivery as well asitwill impact the design quality. Therefore, todecrease the total time of delivery and to improve the design quality, I had to identifyall necessary/significant structure pit points plus route (conduit/ duct) to

findan impacted location. For this, I suggestedthe team develop unique IDs (i.e. D123 and P123) for every duct & pit in a NIMS with both a background table plus physical object shown on the screen. This drastically decreased the maximum time used in pinpointing the accurate location via finding tool in NIMS.

CE 3.10

During the project, I worked in close collaboration with the field engineers and helped them in resolving issues faced by them while performing their work. I attended the technical meeting with them and we discussed the technical problems and designs and also reviewed/checked the electrical circuit drawings made by them. For proper communication, I participated in monthly and weekly meetings and briefly explained the quality problems, solutions to overcome such issues, and also provided an update regarding ongoing and proposed design activities. I also coordinated with the onsite engineer's team to uproot problem that occurred from clarification of shop drawings, circuit drawing constraints, and equipment manufacturer's by providing effective recommendations

CE 3.11

Throughout the project tenure, I implemented my creative and problem-solving strategies tocreatean electrical network and uproot the problems that entirely occurred during the designing process. Then, I developed the report which showed complete project details andalso discussed it with consultants and team members to get their comments as well as clarifications, afterward, I submitted it to the project manager and after getting approval, I incorporated all comments. I also monitored the ongoing project activities to ensure that all design activities are done according to the brief design documents and specifications. Moreover, I constantly communicated with the electrical field engineers' discipline teams to discuss the design drawings and discuss the strategies to accomplish the efficient design.

d) Summary:

CE 3.12

My role as a GIS engineer was quite challenging, but I effectively used my in-depth knowledge and latest technologies to complete the assigned work within the given time frame. The project manager appreciated me for timely managed all the project tasks, which eventually boosted my confidence to work harder in the next projects. In a nutshell, it was a great and outstanding learning experience as well as a key milestone in my career.

Competency Element	A brief summary of how you have applied the element	Paragraph in the career episode(s) where the element is addressed
PE1 KNOWLEDGE AND SKILL BASE		
PE1.1 Comprehensive, theory-based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline	The projects were developed by incorporating the engineering knowledge and professional expertise which helped to develop the Optus Networkand NBN	CE 1.6, CE 1.7, CE 1.8, CE 2.6, CE 2.7, CE 3.7, CE 3.8, CE 3.9
PE1.2 Conceptual understanding of the mathematics, numerical analysis, statistics and computer, and information sciences which underpin the engineering discipline	Computations were the essential part for the designing of every single Optus product in the core networki.e. I calculated the average handling time (AHT) required	CE 1.8
PE1.3 In-depth understanding of specialist bodies of knowledge within the engineering discipline	Different tools were used while working on the Optus Network project i.e. Helix, MS-Word, and MS-Excel to perform technical analysis Proposed the design of the 2 DSLAMs for the project site by using MapInfo, Google Earth, and SpatialNet Created the 2D drawings of LV/ HV circuits in Small World and AutoCAD software	CE 1.6 CE 2.6 CE 3.7

PE1.4 Discernment of knowledge development and research directions within the engineering discipline	The project data gathering was important, therefore, before commencing the FTTB design, I studied photo packs, word documents, and excel filesi.e. in survey inputto check the design complexities. I also studied the scope of work (SOW), links matrix, and effect of failure report before starting the migration design task	CE 2.6 CE 1.6
PE1.5 Knowledge of contextual factors impacting the engineering discipline	I obeyedstandards of quality, safety, and consistency to carry out all the tasks effectively i.e. Ausgrid standards, NBN standards	CE 2.5, CE 2.6, CE 3.7

PE1.6 Understanding of the scope, principles, norms, accountabilities, and bounds of contemporary engineering practice in the specific discipline	By implementing thelatest engineering applications/knowledge and proactive strategies, I worked on Network to Network Interface (NNI), then develop the Optus Network and also proposed the complex FTTB design.	CE 1.7, CE 1.8, CE 2.6
	I worked on the NBN (National Broadband Network)as per Telecommunication Act legislations1997 and telecommunication standards	CE 2.5, CE 2.9
	Safety was my major concern during network projects and I obeyed the safety standards and use preventive measures to keep the area safe	CE 2.5, CE 2.8
PE2 ENGINEERING APPLICATION ABILITY		

PE2.1 Application of established engineering methods to complex engineering problem solving	During the project, I implemented my problem-solving skills and technical knowledge to resolve any issues and provided brainstorming effective solutions	CE 1.6, CE 1.7, CE 2.6, CE 2.7, CE 3.8, CE 3.9, CE 3.10
PE2.2 Fluent application of engineering techniques, tools, and resources	To represent my understanding of the engineering tools, I worked on AutoCAD, Helix, MS-Word, MS-Excel, MapInfo, Google Earth, and SpatialNet	CE 1.6, CE 2.6, CE 3.7
PE2.3 Application of systematic engineering synthesis and design processes	I used my engineering skills to design the 2 DSLAMs for the Westfield sitebased on the number of users at a particular site. Carried out the drafting of ZONE substation switches and distribution substation, circuit breakers, and bus bars	CE 2.6 CE 3.7
PE2.4 Application of systematic approaches to the conduct and management of engineering projects	Team coordination was the most significant factor in all the projects because it will ensure the delivery of quality of products and on-time completion of every task. I used different engineering strategies and analytical and problem-solving skills to avoid project delays and escalations of the project costs	CE 1.5, CE 1.7, CE 2.5, CE 2.9, CE 3.6, CE 3.10 CE 1.7, CE 1.8, CE 2.7
PE3 PROFESSIONAL AND PERSONAL ATTRIBUTES		

PE3.1 Ethical conduct and professional accountability	Standards were obeyed to develop a safe network and to perform each task effectively. I made use of PPE and also provided safety instructions to avoid incidents on the site	CE 2.5, CE 2.6, CE 2.9, CE 3.7 CE 2.5, CE 2.8
PE3.2 Effective oral and written communication in professional and lay domains	I attended many meetings with the planning team, project manager, and vendors to ensure proper communication and coordination	CE 1.5, CE 1.9, CE 2.5, CE 2.6, CE 2.9, CE 3.6, CE 3.10
PE3.3 Creative innovative and proactive demeanor	While working on the NBN project, I studied the complexity of the FTTB design by researching the HSD cable pathway, X&C cable pathway, power connection photos, cabinet location photo and then proposed the design 2DLSM	CE 2.6
PE3.4 Professional use and management of information	I was involved in the documentation process i.e. created the AHT calculation report, level 5 documents for the CAD team, a progress report on NBNCo, etc.	CE 1.8, CE 1.10, CE 2.5, CE 3.11
PE3.5 Orderly management of self, and professional conduct	Developed the Grant chart and explained it to the team which shows project task, duration, etc.and also attended kick-off meetings to understand my duties which were needed to manage and accomplish the objectives	CE 1.5, CE 2.5

PE3.6 Effective team membership and team leadership	I coordinated with different team members i.e. onsite engineer's team, field technicians, stakeholders, and different departments, and communicated with offshore teams to show my leadership qualities.	CE 1.5, CE 1.7, CE 2.5, CE 2.9, CE 3.6, CE 3.10