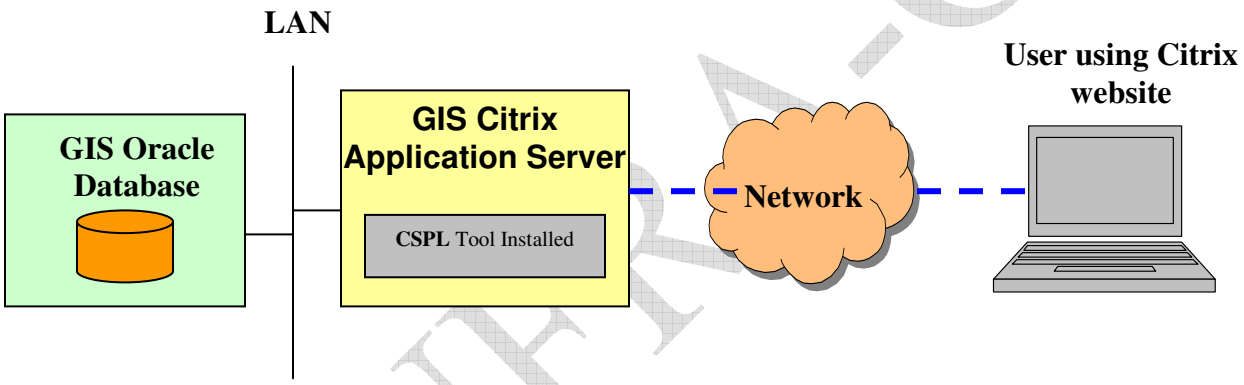
1. Design

1.1. Introduction

The Design Document serves as the business and technical specifications for the design and development of the GIS based *Cable section and Pillar wise Load calculation* Tool. This document contains the relevant information needed to develop and deliver the interface successfully.

This design approach describes a method by which *Cable section and Pillar wise Load calculation can be* performed.

1.2. System Structural Design



1.3. Behavioral Design

The user will be given the option to select division, respective substation & DT via Select DT form.

After entering details,

- CSPL Tool will perform downstream trace for selected DT
- Insert the trace results to Raw-Table
- Customizes raw table as per REL network connectivity rules
- Performs load calculation
- Generates Pillar wise and cable section wise load calculation details.

2. Architecture

2.1. System Architecture

Software architecture style for this tool is client-server, database type.

This section describes the RELGIS-*Cable section and Pillar wise Load calculation* Tool Interface system dependencies, requirements and configurations.

RELGIS-Cable section and Pillar wise Load calculation Tool is a 1 step process, which works in 5 modules i.e. DT Downstream tracing, customizing traced results, sequencing, load calculations & Report generation.

2.2. Components

2.2.1.Presentation/UI Components

Following are the components of the tool in ArcMap –

Fig2.2.1: CSPL Toolbar

RELGIS-Cable section and Pillar wise Load calculation Toolbar consists of single command

- Calculate Pillar wise Load

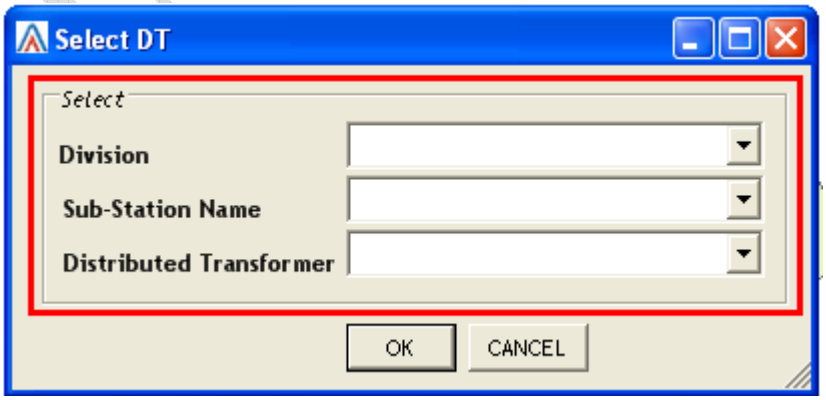


Fig2.2.2: CSPL Form: Select DT

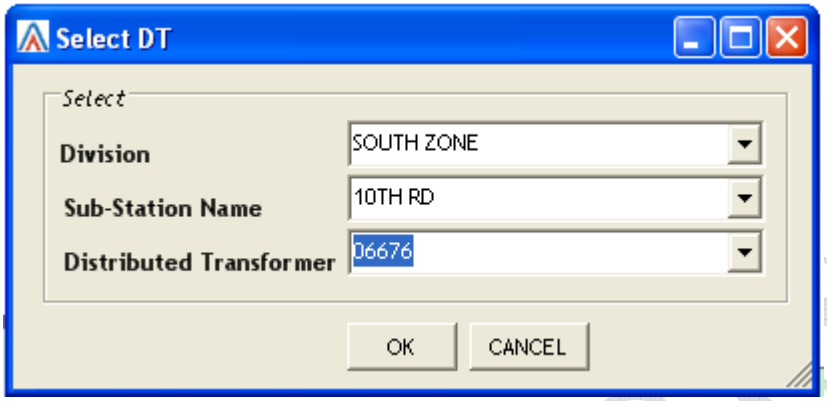


Fig2.2.3: CSPL Form: Selected DT for given substation

The user will be given the option to select division, respective substation & DT via Select DT form.

After entering details, CSPL Tool will perform downstream trace for selected DT, insert the trace results to Raw-Table, customizes raw table as per REL network connectivity rules, performs load calculation & finally generates Pillar wise and cable section wise load calculation details.

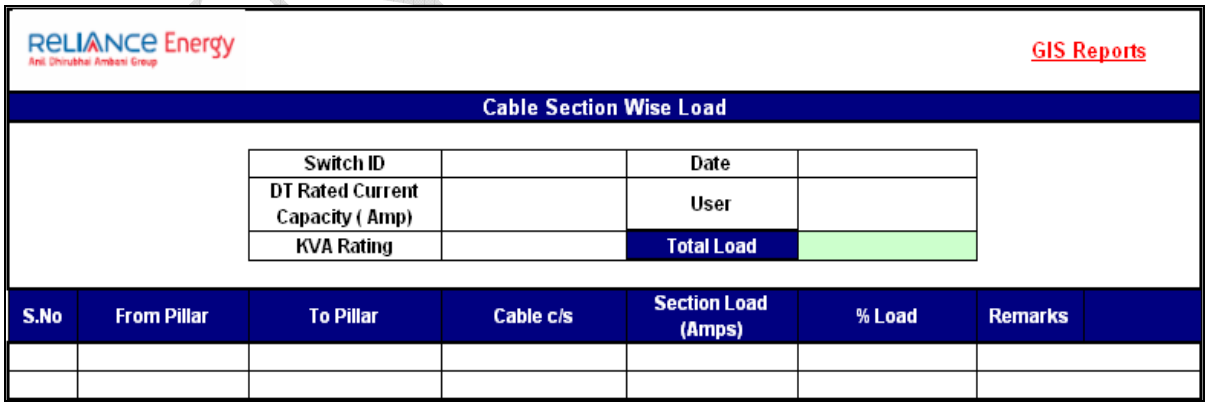


Fig2.2.4: Cable section wise Load calculation Template

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GIS Reports

Pillar Wise Load

Switch ID		Date	
DT Rated Current Capacity (Amp)		User	
KVA Rating		Total Load	

S.No	Pillar Number	Pillar Type	Load on Pillar (Amps)	% Load	Remarks

Fig2.2.5: Pillar wise Load calculation Template

2.2.2. Data Storage Components

Feature classes & their fields participating	Feature Classes & Fields Participating
Data Tables created & their schemas	Data Table Schema's

2.3. Deployment

The RELGIS – Cable Section & Pillar wise Load calculation Tool can be deployed on a machine having ArcGIS and ArcFM installed and can connect to the GIS oracle database. RELGIS – Cable Section & Pillar wise Load calculation Tool can be installed using the following steps:

Double click on "RELGIS_CableSection&Pillarwise_LoadCal_v1.0.msi" provided in the deliverables media. This will display the "Installation Wizard". Follow the instructions provided by the Wizard to complete installation.

3. Source Code Organization

3.1. Overview

The RELGIS-Cable Section & Pillar-wise load Calculation Tool is a windows application developed in Visual Studio C# .NET 2005.

3.2.Key Directories and Files in Developer Working Copies

The folder “Cable Section wise & Pillar wise Load Calculation” contains the source code.

The folder “RELGIS_CableSection&Pillarwise_LoadCal_v1.0” has the installer project.

4. User Interface

4.1. Overview

This section describes the RELGIS-Cable Section & Pillar-wise load Calculation Tool's User Interface.

4.2. Interface Description

The user will be given the option to select division, respective substation & DT via Select DT form. After entering above mention details, load is calculated.

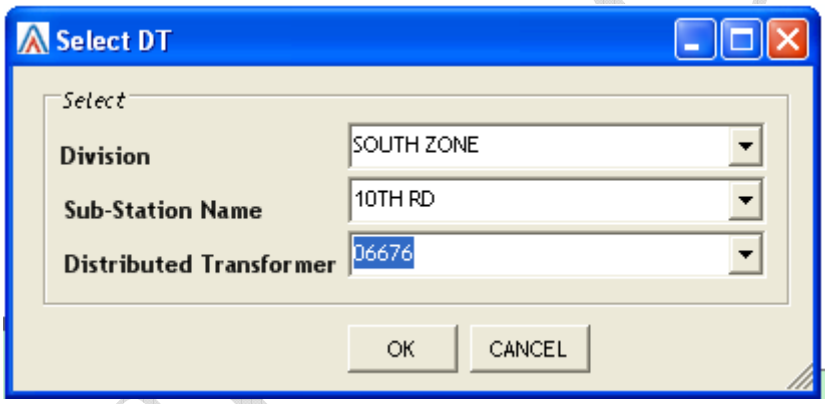

Fig4.2: CSPL Form: Select DT with inputs