Mobile Carriers Forum

Site Data Exchange Format (SDX)

MCF Data Format for EME Prediction Software

Technical Reference 1.1

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Contents

1. Introduction

The Mobile Carriers Forum (MCF) is an industry group comprising the four mobile phone carriers in Australia: Hutchison, Optus, Telstra and Vodafone.

The MCF's agenda is to deal specifically with social and environmental issues within the policy, regulatory and operational environment associated with the deployment and operation of mobile phone networks. While the MCF does not deal in site specific issues, it will strive to ensure that the mobile carrier's industry as a whole, addresses community and Government expectations.

The 4 key functions of the MCF are:

1. Coordination in deployment and network operations and cooperation with Stakeholders;
2. Enhanced communication, education and consultation;
3. Mobile carrier industry liaison with Government and other industry stakeholders;
4. And research and development of best practice in deployment and network operations.

2. Glossary of Terms

- ADX – The MCF Antenna Data Exchange format
- Antenna Pattern – the graphical representation of directional field strength of radiation from an antenna
- ARPANSA – Australian Radiation Protection and Nuclear Safety Agency
- Bearing – Horizontal orientation of an antenna from True North (in degrees)
- CANRAD - Telstra In-house Radio System Database
- Eagle – Telstra In-house Radio Planning Software
- Electrical Tilt – Alignment of an antenna pattern from vertical (in degrees)
- EME – Electromagnetic Emissions
- Gatekeeper – MCF Representative to control Antenna Data input into the NAD
- Height – Height at mid point of an Antenna from a ground reference
- ICNIRP – International Commission on Non-Ionising Radiation Protection
- MCF – Mobile Carriers Forum part of Australian Mobile Telecommunications Association
- Mechanical Tilt – Physical Alignment of an antenna from vertical (in degrees)
- MERCS – MCF EME Regulatory Compliance Strategy now known as the MCF RF Safety Compliance Program
- NAD – National Antenna Database
- NSA – National Site Archive for MCF Carrier sites
- Planet – Radio Planning Software antenna pattern format
- radPro – Corearth EME Modelling software
- RF Map – Telstra Environmental EME Assessment software
- RSO – Radio Service Operator
- SDX – The MCF Site Data Exchange format
- STAD – Site Transmitter Antenna Data
- SYNC.XREV - Revision control file used as master file to control document revisions
- TRL – Telstra Research Labs
- TRS – Total Radiation Solutions
- XML - Extensible Markup Language. A general-purpose specification for creating custom markup languages.

3. What is the MCF RF Safety Compliance Program?

The MCF RF Safety Compliance Program (formerly known as MERCS) is a compliance strategy developed by the mobile carriers to meet the regulatory requirements of:

- ACMA
- Radiocommunications Licence Conditions
- OH&S Legislation

The RF Safety Compliance Program (RFSCP) enables the management of cumulative site EME in line with the requirements of ARPANSA Radiation Protection Standard (RPS) No. 3 (Compliant with International ICNIRP Standard).

The RFSCP Processes involve a set of Key Components for management of EME compliance

- National Site Archive for all Sites
- National Antenna Data Base – providing an antenna pattern base line for site RF assessments
- NATA Pre qualified Independent RF Assessors
- Standard EME Site Safety Documents
- Standard Site Signage and a proportioned cost recovery structure

It is important to understand that the RF Safety Compliance Program is not a body or organisation. It represents a mechanism to demonstrate compliance and therefore it is available to Carriers and other Radio Service Operators (RSO). The processes and systems are the intellectual property of the Mobile Carriers and the overall system is managed by the MCF.

4. Scope

This document will outline the NSA Site Data Exchange (SDX) XML file format, the minimum required data for each object located on the site, the order and grouping for each object type, as well as program configuration data.

5. The Site Data Exchange Format (SDX)

The MCF is in the process of developing a Data Consistency Baseline as part of the overall Mobile Carriers RF Safety Compliance Program. The Data Consistency Baseline is a project that is focused on ensuring that all compliance assessments are based on consistent data from a single source.

In early 2005 there arose a need for the two commercially available EME prediction products to be able to provide a common data format for site assessment files uploaded to the NSA. A new data format was to be created that contained the minimum configuration data for EME assessment software programs to be able to open and edit an existing site, created in either program.

This file format, known as the Site Data Exchange format (SDX) will be made publicly available on the MCF website to anyone building or offering software for EME prediction for acceptance by the MCF. The MCF is concerned that all EME assessment data files uploaded to the NSA be supplied in SDZ format

The SDZ format is basically a zip file of:

1) EME assessment engine native format file
2) DXF drawing file
3) SDX site data XML file

Figure 1, The SDX Process Flow, below describes the overall concept of data interexchange between the NSA and any SDX enabled EME assessment software engine. Please note that the NAD interface has been excluded for clarity.

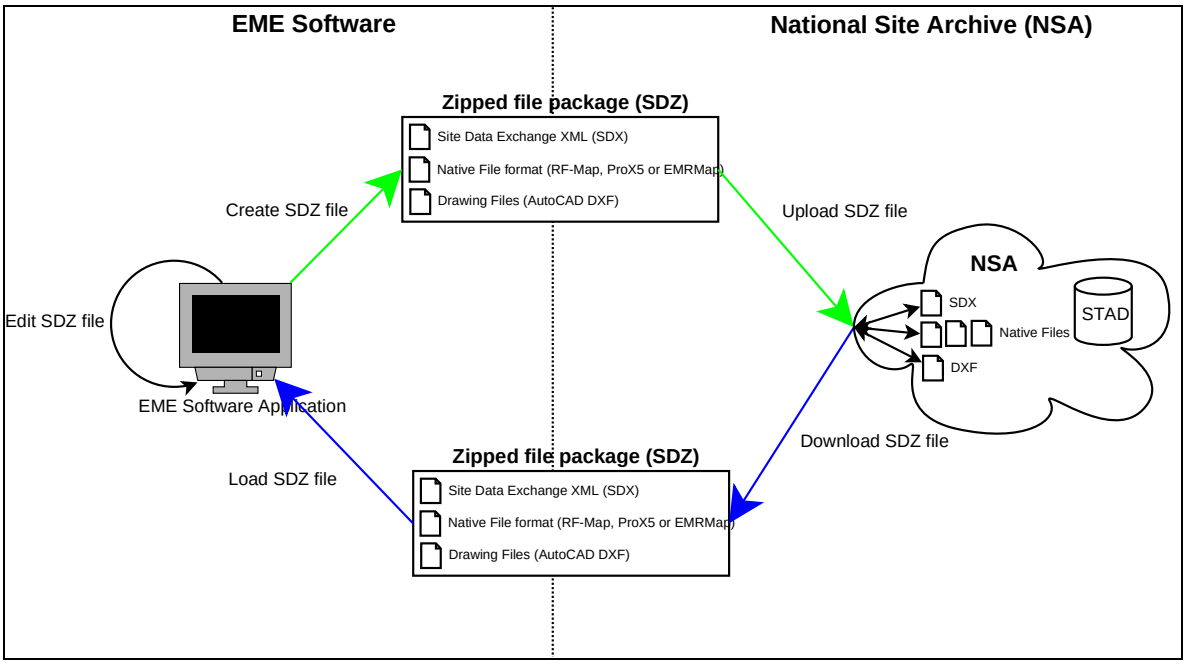

Figure 1 – The SDX Process Flow

This SDX file format was initially developed cooperatively between EMC Technologies, Corearth Pty Ltd (formerly ICOMMS), Telstra and the MCF.

The introduction of the SDX format seeks to remove unnecessary duplication of effort for RF Assessors by enabling an update process based largely on the previous assessment whilst allowing for the inclusion of additional antenna present on the site.

This approach will simplify the data management and time required to demonstrate EME regulatory compliance and will facilitate the update of existing assessments through an open source format that is independent of any one particular site assessment software package.

This format will be publicly available for download on the MCF website at www.mcf.amta.org.au.

An additional Antenna Data Exchange (ADX) format for use between the NAD and EME assessment software will also be freely available on the MCF website.

6. Purpose

This specification is intended to define an interoperable XML Site Data Exchange (SDX) format. The MCF is committed to ensuring the interoperability of the SDX file format through publication and maintenance of this specification. We envision that all SDX compatible vendors and EME software developers will adopt and benefit from this format and will share and support the MCF's commitment to site data interoperability between the RFNSA data set and individual EME software based assessment engines.

7. Intended Audience

This specification is intended for use by developers of EME software to enable site data exchange between EME software and the RFNSA.

8. SDX Intended Usage

The SDX file format will enable consistent exchange of site specific EME assessment information between different EME software applications and systems. It will also enable the establishment of an updateable EME assessment “zip-file” for each site.

The establishment of the MCF National Antenna Database (NAD) will help facilitate this by providing a single source of antenna pattern data to relate to the STAD data from the NSA.

NAD users will be able to download an entire antenna database in ADX format from the NSA.

The NAD will be maintained up to date with the latest antenna data available from the antenna manufactures and other sources. A single “Gatekeeper” will be engaged to vet and enter antenna pattern data as required into the NAD. Each carrier will fund the cost of their own pattern data entry into the NAD via the gatekeeper process. Antenna pattern data will only be entered into the NAD via the gatekeeper and It is expected a similar “cost of pattern entry” model based on the antenna owner will apply across other entities wishing to utilise the NAD.

This technical reference document specifies the SDX format such that individual users (or providers) of an EME assessment software product can build software converters that accept elements of the SDZ (SDX, DXF or given EME product native file) for subsequent EME assessment.

9. SDX Objects

There are a number of sections or objects within an SDX file which combine to fully describe the site and its configuration. The following details each of the SDX objects.

9.1. Document Object

Description

The Document object contains all of the configuration data for the file and the project.

Tag Name

<sdx>

Required Data

Field Name	Descriptive Name	Description
version	File Format Version	This is the version of the File Format used. This number should be the same as the revision of this document. This is required to allow changes in file formats to be conducted when required, while still knowing the format of any file imported.

Parent Of

Object Type	Example / Description
site	Contains information regarding the actual objects located on the site.
document-history	Contains information on revisions to the document, what was changed, when it was changed and who changed it.

pages	Contains information specific to each page located in the document.

9.2. Sites Object

Tag Name

<sites>

Parent Of

Object Type	Example / Description
site	Collection of information about each site

Child Of

Object Type	Example / Description
nsa-doc	A Sites object can only be the child of nsa-doc

9.3. Site Object

Tag Name

<site>

Parent Of

Object Type	Example / Description
antennas	Collection of Antennas mounted directly on the site (not mounted on a structure or mount).
structures	Collection of Structures located on the site.

Child Of

Object Type	Example / Description
Sites	A site object can only be the child of s Sites object

Required Data

Field Name	Descriptive Name	Description
@id	Site Code	Site Code
@lastmod	Revision Date	Date the Site was last revised. Should be a Date-Time group (DTG).
name	Site Display Name	The display name for the site
code	Site NSA Code	The NSA code for the site.
address	Street Address	The street address of the site.
suburb	Suburb	The suburb where the site is located.
postcode	Postcode	Post code of the site.
latitude	Latitude	Latitude of the site. Should be stored as a decimal (e.g. -37.12345) or may be stored in Degrees, Minutes, Seconds separated by spaces and prefixed with the code DMS (e.g. -37 12 45 DMS).
longitude	Longitude	Longitude of the site. Should be stored as a decimal (e.g. 144.12345) or may be stored in Degrees, Minutes, Seconds separated by spaces and prefixed with the code DMS (e.g. 144 12 45 DMS).
height	Height above sea level	Site height above sea level
contact	Contact for the Site	Name of the contact person for the site.
email	Email Address	Email address for the Site Contact person.
phone	Phone Number	Contact Phone Number for the site Contact person.
mobile	Mobile Phone Number	Mobile Phone Number for the Site Contact person.

9.4. Structures Object

Tag Name

<structures>

Parent Of

Object Type	Example / Description
structure	Individual structures mounted on a site.

Child Of

Object Type	Example / Description
site	The site the configuration data is for.

Required Data

9.5. Structure Object

Tag Name

<structure>

Parent Of

Object Type	Example / Description
antennas	Collection of Antennas mounted directly on the structure.
mounts	Collection of Mounts (Headframes) mounted directly on the structure.

Child Of

Object Type	Example / Description
structures	Collection of Structures located on a site

Required Data

Field Name	Descriptive Name	Description
@id	Structure Reference Number	Reference number for the structure on the site. Alphanumeric value.
@lastmod	Revision Date	Date the Structure was last revised. Should be a Date-Time group (DTG).
name	Name of the structure	E.g. Building name, or for a pole, mast etc the name of the manufacturer and/or model of the structure.
height	Height of the Structure	The height of the structure.
width	Maximum width of the structure.	The maximum width of the structure. Used for scaling purposes on the page.
structure-type	Type of Structure	other building pole mast tower
x	Structure X Position	The X position of the structure in relation to the datum. This is a numeric value stored in metres.
y	Structure Y Position	The Y position of the structure in relation to the datum. This is a numeric value stored in metres.
z	Structure Z Position	The Z position of the structure in relation to the datum. This is a numeric value stored in metres.

bearing	Bearing	Bearing of the Structure (to True North)
mount-height	Structure Mounting Height	Mounting height of the structure. 0 if on the ground, or a height (stored in metres) if the structure is mounted on another structure.

9.6. Mounts Object

Tag Name

<mounts>

Parent Of

Object Type	Example / Description
mount	Collection of mounts located on the parent structure.

Child Of

Object Type	Example / Description
structure	A mount must be attached to a structure. E.g. a Headframe on a pole.

9.7. Mount Object

Tag Name

<mount>

Parent Of

Object Type	Example / Description
antennas	Collection of Antennas mounted on the Mount (Headframe).

Child Of

Object Type	Example / Description
mounts	A collection of mounts attached directly to the parent structure.

Required Data

Field Name	Descriptive Name	Description
@id	Mount Reference Number	Reference number for the mount on the Structure. Alphanumeric value.
@lastmod	Revision Date	Date the Mount was last revised. Should be a Date-Time group (DTG).
name	Name of the mount	E.g. Descriptive name for the mount. Include if possible Manufacturer and Model.
mount-type	Type of mount	Other Circular Radial Polygon
mount-height	Mounting height for the Mount	The height that the mount (Headframe) is mounted at on the parent structure.
width	Maximum width of the mount.	The maximum width of the mount, stored in metres.
bearing	Bearing	The bearing of the mount. Stored in degrees to True North.
sides	Number of Sides.	The number of sides the mount has. For a circular mount this will be 0.

9.8. Antennas Object

Tag Name

<antennas>

Parent Of

Object Type	Example / Description
antenna	Contains all information for an antenna object mounted on the parent object (Site, Structure, Mount).

Child Of

Object Type	Example / Description
structure	Antenna mounted directly on a structure.
mount	Antenna mounted on a Headframe.
site	Antenna mounted at a site, not on a headframe or structure.

9.9. Antenna Object

Tag Name

<antenna>

Parent Of

Object Type	Example / Description
bands	Collection of sectors on a multi band antenna.

Child Of

Object Type	Example / Description
structure	Antenna mounted directly on a structure.
mount	Antenna mounted on a Headframe.

Required Data

Field Name	Descriptive Name	Description
@id	Antenna Reference Number	Reference number for the antenna on the site. Alphanumeric value.
@lastmod	Revision Date	Date the Antenna was last revised (or added). Should be a Date-Time group (DTG).
nad-id	Antenna's (National Antenna Database) identifier	Unique Antenna ID used by NAD. Alphanumeric value
x	Antenna Position - X	X Position of the Antenna to the Phase Centre (radiating point) in respect to the datum. Stored in metres.
y	Antenna Position - Y	Y Position of the Antenna to the Phase Centre (radiating point) in respect to the datum. Stored in metres.
z	Antenna Position - Z	Z Position of the Antenna to the Phase Centre (radiating point) in respect to the datum. Stored in metres.
bearing	Bearing	The bearing of the antenna. Stored in degrees to True North.
m-tilt	Mechanical Tilt	The mechanical tilt for the antenna. Stored in degrees as a down tilt. I.e. -5 will be a 5 degree "up tilt"; while +5 will represent a 5 degree down tilt.
inverted	Is the Antenna Inverted?	Stored as a bit. 0 - Antenna is not inverted 1 - Antenna is inverted (mounted upside down)

9.10. Bands Object

Tag Name

<bands>

Parent Of

Object Type	Example / Description
band	Sector on a multi-band antenna

Child Of

Object Type	Example / Description
antenna	Sector on a multi-band antenna

9.11. Band Object

Tag Name

<band>

Parent Of

Object Type	Example / Description
The object cannot have any child objects	

Child Of

Object Type	Example / Description
antenna	Sector on a multi-band antenna

Required Data

Field Name	Descriptive Name	Description
@id	Sector Reference Number	Reference number of the sector (band) on the Antenna
@lastmod	Revision Date	Date the Sector was last revised (or added). Should be a Date-Time group (DTG).
nad-id	Pattern's (National Antenna Database) identifier	Unique Pattern ID used by NAD. Alphanumeric value
name	Name of the Sector	Descriptive name of the sector. Could include Frequency, Tilt and System.
tx-freq	Operating Frequency	Operating (Licensed) Frequency of the sector. This is stored in MHz.
power	Operating Power	The input power into the Antenna. This is stored in Watts (W)
e-tilt	Operating Electrical Tilt	The Electrical Tilt the antenna is operating at. This is stored in degrees as a "down tilt". I.e. -5 will be a 5 degree "up tilt"; while +5 will represent a 5 degree down tilt. Format is Min.Max where a "." Separates the fields
system-loss	System Loss	The system loss value (if any) in dB.
status	Operating Status	Status of the sector. Tx Rx
licensee-name	Name of the Licensee	Name of the licence holder for this band
num-carriers	Number of Carriers	The number of carriers using this sector.

9.12. Pages Object

Tag Name

<PAGES>

Parent Of

Object Type	Example / Description
PAGE	Contains information for the given page

Child Of

Object Type	Example / Description
PROJECT	Project object - contains all project configuration data.

Required Data

Field Name	Descriptive Name	Description
TOTAL_PAGES	Total Pages	The total number of pages. The total number of PAGE objects should match this number.
REVISION_NUMBER	Revision number	History revision number of last created pages.

9.13. Page Object

Tag Name

<PAGE>

Parent Of

Object Type	Example / Description
DRAW_ANTENNAS	The antennas to be drawn on this page.
CALCULATION_ANTENNAS	The antennas to be used in calculations on this page.
CAPTIONS	A list of the captions (Caption Objects) to be located ion this page.

Child Of

Object Type	Example / Description
PAGES	Collection of pages located in the document.

Required Data

Field Name	Descriptive Name	Description
PAGE_REF_NO	Page Number	Number of the Page.
PAGE_NAME	Name of the page	The name of the page.
PAGE_TYPE	Page Type	The type of the page (i.e. Elevation, Plan).
PAGE_BEARING	Page Bearing	The bearing of the page. Elevation Views - View Angle Plan Views - Structure Offset to True North Values stored in degrees.
PAGE_START_POSITION_X	Page Position X	The X position of the bottom left corner of the page in relation to the datum. Value is stored in metres.
PAGE_START_POSITION_Y	Page Position Y	The Y position of the bottom left corner of the page in relation to the datum. Value is stored in metres.
PAGE_HEIGHT	Page Height	The Viewable Height of the page. Stored in metres.
PAGE_WIDTH	Page Width	The Viewable Width of the page. Stored in metres.
PAGE_SCALE	Page Scale	The scale of the page. This should be a metric scale (numeric value). E.g. a value of 500 would represent a scale of 1:500.
STRUCTURE_WIDTH_PAGE	Structure Width on the page	The width of the structure on the page.
STRUCTURE_DRAWING_FILE	Drawing file	The name of the DXF file containing the Structure drawing information.

DRAWING_START_X	X Start Position of the drawing	The X start position of the drawing in relation to the datum. Value is in metres.
DRAWING_START_Y	Y Start Position of the drawing	The Y start position of the drawing in relation to the datum. Value is in metres.

9.14. Draw Antennas Object

Tag Name

<DRAW_ANTENNAS>

Parent Of

Object Type	Example / Description
DRAW_ANTENNA	Reference for the antenna to be drawn on the parent page.

Child Of

Object Type	Example / Description
PAGE	Current Page Object

Required Data

Field Name	Descriptive Name	Description
TOTAL_DRAW_ANTENNAS	Total Antennas to be Drawn	The total number of antennas to be drawn on the parent page.

9.15. Draw Antenna Object

Tag Name

<DRAW_ANTENNA>

Parent Of

Object Type	Example / Description
The object does not have any child objects.	

Child Of

Object Type	Example / Description
DRAW_ANTENNAS	Collection of antennas to be drawn on the current page.

Required Data

Field Name	Descriptive Name	Description
REF_NO	Reference Number	The Reference number of the antenna to be drawn on this page.

9.16. Calculation Antennas Object

Tag Name

<CALCULATION_ANTENNAS>

Parent Of

Object Type	Example / Description
CALCULATION_ANTENNA	Reference for the antenna to be included in calculations on the parent page.

Child Of

Object Type	Example / Description
PAGE	Current Page Object

Required Data

Field Name	Descriptive Name	Description
TOTAL_CALC_ANTENNAS	Total Antennas to be used in calculations	The total number of antennas to be used in the calculations for the parent page.

9.17. Calculation Antenna Object

Tag Name

<CALCULATION_ANTENNA>

Parent Of

Object Type	Example / Description
The object does not have any child objects.	

Child Of

Object Type	Example / Description
CALCULATION_ANTENNAS	Collection of Antennas to be used in calculations on the current page.

Required Data

Field Name	Descriptive Name	Description
REF_NO	Reference Number	The Reference number of the antenna to be used in calculations on this page.

9.18. Captions Object

Tag Name

<CAPTIONS>

Parent Of

Object Type	Example / Description
CAPTION	Caption Object - stores data for captions located in the current (parent) page

Child Of

Object Type	Example / Description
PAGE	Current Page Object

Required Data

Field Name	Descriptive Name	Description
TOTAL_CAPTIONS	Total Captions	The total number of captions located on this page.

9.19. Caption Object

Tag Name

<CAPTION>

Parent Of

Object Type	Example / Description
The object does not have any child objects.	

Child Of

Object Type	Example / Description
CAPTIONS	Caption Collection for the current page.

Required Data

Field Name	Descriptive Name	Description
CAPTION_REF_NO	Caption Reference Number	Reference number of the caption object.
CAPTION_TEXT	Caption Text	The text for the caption
CAPTION_POSITION_X	Caption Position - X	The X Position of the caption on the page. Stored in metres.
CAPTION_POSITION_Y	Caption Position - Y	The Y Position of the caption on the page. Stored in metres.

9.20. Document History Object

Tag Name

<DOCUMENT_HISTORY>

Parent Of

Object Type	Example / Description
HISTORY	Contains information on the document history.

Child Of

Object Type	Example / Description
PROJECT	Current Project Object

Required Data

Field Name	Descriptive Name	Description
TOTAL_HISTORY	Total History	The total number of history objects found in the collection

9.21. History Object

Tag Name

<HISTORY>

Parent Of

Object Type	Example / Description
The object does not have any child objects.	

Child Of

Object Type	Example / Description
DOCUMENT_HISTORY	History Object Collection for the document / project.

Required Data

Field Name	Descriptive Name	Description
REVISION_NUMBER	Revision Number	The number of the revision. Should be incremental.
DRAWN_BY	Drawn By	The initials (or name) of the person who edited the drawing for this amendment.
CHECKED_ACCEPTED_BY	Checked and/or Accepted By	The initials (or name) of the person who checked and/or accepted this drawing.
ASSESSOR_COMPANY	Assessor's Company Name	Name of the company that the assessor works for.
AMENDMENT	Amendment	The amendment made to the drawing. Description of the changes made.
REVISION_DATE	Revision Date	The date the Revision was accepted.
APPLICATION_ID	Modifying application	The application that last created the last revision.

10. Object Relationship Diagram

Figure 2 below shows the hierarchy of the objects within the XML document. It should be noted that there can be multiple levels of structures and mounts to which antennas may be attached. A mount may also be the child of a structure which itself is the child of another structure.

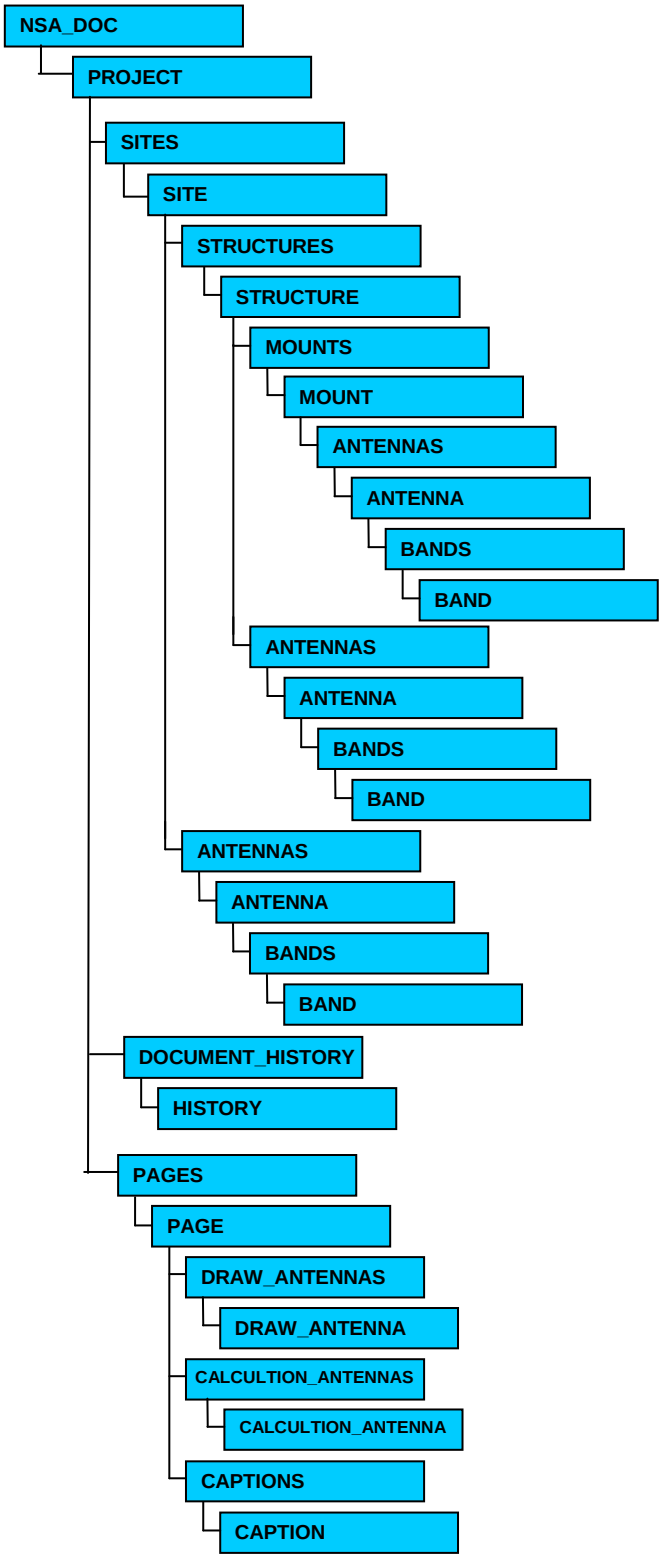

Figure 2 – SDX Object Relationship Diagram

11. SDZ File Format

The SDZ file will be a single compressed (zipped) file that will contain the required site data and EME assessment output and be the transport mechanism for uploading to and downloading from the NSA. It will comprise of up to three data sections, which are:

11.1. SDX Data File

The SDX data file will be in XML format as described above, with the file extension .SDX. All data for the project and the site should be contained within this file, along with the required references back to the drawing files for each page of the EME assessment.

11.2. Drawing Files

Drawing files will be included for each page created for the EME assessment. The format for the drawings will be in the Autodesk (AutoCAD) DXF format.

DXF is a text format that is easily viewable in a free viewer available from the Autodesk website (http://www.autodesk.com). It is a proprietary format, but in most instances, third party drawing packages (such as CorelDraw and Visio) already have the required license to export into this format, so licensing for the format should not be required.

11.3. Native File

An optional native file from the producing EME assessment software can be bundled within the SDZ file. This will ensure faithful reproduction of data if next opened with the same EME assessment application.

12. NSA Upload and Download Requirements

Background

The concept of the SDX interexchange format is as per "Figure 1 - SDX Process Flow" shown in section 5 above. A single SDZ "zip" file will be uploaded and downloaded between NSA and EME assessment engines as a carrier for:

1) **SDX site Stad data XML file**
2) **DXF autocad drawing file**
3) **EME assessment engine ":native" file**

The SDX file will only contain common data necessary to facilitate data interchange between EME applications. This means that the SDX file will in fact be a subset of data contained within a "native" application file.

A "native" file is included within a the SDZ zip file along with the SDX file to prevent the users of each application having to re-recreate the "native" file format each time the SDX file is downloaded as every time a "native" file is exported using SDZ format some application specific data will be lost ie line color or font size etc.

Upload

The upload process on the NSA site will extract each component of the SDZ file and store them separately. The process will also check the History Object of any existing SDX file stored for the site in question on the NSA for the latest revision (datestamp) and check it against the revision of the newly uploaded file. Simple logic should be applied here, where only the later revisions of SDX file should be uploaded.

Download

During the download process, user will select the target application (e.g., RF-Map, RadPro or EMRMap). The NSA will create an SDZ file with the latest component SDX, DXF and “native” files included. Upon the import of SDZ file, the target application should check the History object of the included SDX file against the “native” file datestamp. Should the SDX be the later revision (ie due to update by another EME assessment software engine) the target application should bring its “native” file up-to-date using data contained within the SDX file.

13. Appendix 1 – Example SDX Data File

```
<?xml version="1.0" encoding="utf-8"?>
<sdx version="10">
      <sites>
            <site id="3000001" lastmod="2005-06-06T10:00:00">
                  <name>NSA Demo Site 1</name>
                  <address>23 Bourke Street</address>
                  <suburb>MELBOURNE</suburb>
                  <postcode>3000</postcode>
                  <latitude>-37.811613</latitude>
                  <longitude>144.972432</longitude>
                  <contact>John Smith</contact>
                  <email>john.smith@nsademo.com.au</email>
                  <phone>+61 2 9000 1234</phone>
                  <mobile>+61 402 100 200</mobile>
                  <structures>
                        <structure id="1" lastmod="2005-06-06T10:00:00">
                              <name>Rhumbarallas</name>
                              <height>25</height>
                              <width>35</width>
                              <bearing>0</bearing>
                              <x>0</x>
                              <y>0</y>
                              <z>0</z>
                              <mount-height>0</mount-height>
                              <mounts>
                                    <mount id="1" lastmod="2005-06-06T10:00:00">
                                          <name>3M Circular Headframe</name>
                                          <height>20</height>
                                          <width>3</width>
                                          <bearing>0</bearing>
                                          <sides>0</sides>
                                          <type>circular</type>
                                          <mount-height>0</mount-height>
                                          <antennas>
                                                <antenna id="1" lastmod="2005-06-06T10:00:00">
                                                      <nad-id>12fr4gh</nad-id>
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                                                      <y>12.67</y>
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