IT'S HOW
WE CONNECT

CUSTOMER SITE PREPARATION REQUIREMENTS

CATEGORY: DATA AND IP

PORTFOLIO: ITERRA IP

IT'S HOW WE CONNECT

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1 Introduction

1.1 Executive Summary

This document is to describe the pre-installation requirements and responsibilities of the Customer in preparation for the installation by Telstra Iterra-IP Satellite of an Iterra IP (Satellite) Terminal, utilising an in-ground mast post and underground ducted cable path to the indoor equipment.

1.2 Safety

All Telstra staff and Telstra contractors must comply to all site OHS&W process and proceedures. Where a process or procedure is not available on site relating to the work being completed by Telstra or Telstra Contractor Telstra's standard OHS&W procures are to be followed.

Where required Telstra can provide SWMS for the work being completed or are carried with the Telstra staff or Contractor on site.

Where a hazard is identified that impacts costs and is not part of the scope of works additional charges may apply to the customer.

Telstra staff and Contractors are not to disturb Asbestos Containing Material (ACM) in anyway.

1.3 Glossary of Terms

Items marked in "italics", indicate that these items are out of scope for this document but are included as a guide to understanding the operations described.

Table 1-1: Abbreviations

Abbreviation	Description
VSAT	Very Small Aperture (Satellite) Terminal
EME	Electro Magentic Emmissions
1134	Prodelin Series 1134 Satellite Antenna
1194	Prodelin Series 1194 Satellite Antenna
2194	Prodelin Series 2194 Satellite Antenna (High Wind)
1244	Prodelin Series 1244 Satellite Antenna
2244	Prodelin Series 2244 Satellite Antenna (High Wind)
W41	Wind rating of 41 metres per second (148 km/hour)
W50	Wind rating of 50 metres per second (180 km/hour)
W60	Wind rating of 60 metres per second (216 km/hour)

W70	Wind rating of 70 metres per second (252 km/hour)
km/hr	Kilometres per hour (speed)
kPa	Kilo Pascal (measurement of pressure)
IFL	Interfacility Link (cables between building and antenna)
UPS	Uninterruptible Power Supply
ACM	Asbestos Containing Material
Customer	The individual or organisation that has ordered the Iterra Service who have engaged Telstra for the installation.

2 Customer Requirements Overview

For detailed instructions please read all of this document. The following is a short check list to ensure all items are completed prior to the installer arriving.

Telstra Iterra-IP can arrange to complete the work and supply the necessary items such as concrete, conduit and besser blocks, by prior arrangement and at additional cost.

Requirements prior to installer arriving on site:

- Choose suitable location:
  - Clear line of site to satellite
  - Fencing/access restrictions of EME Exclusion Zone.
- Complete Antenna mount civil works:
  - Dig hole for antenna post; or
  - Level ground for non-penetrating mount; or
  - Pour concrete slab for mounting antenna
- Dig a trench between the antenna post and the communications hut. If distance exceeds 25m, contact Telstra Iterra-IP 02 8202 5287 or 02 8202 5288 to arrange supply of longer cable lengths.
- Supply lengths of 100mm DWV (Drain Waste and Vent) sewer pipe. See Figure 2: 100mm DWV Sewer Pipe for correct material.
- Place straight sections of 100mm DWV pipe in trench (90 degree bends and risers supplied by Telstra Iterra-IP).
- Back fill of trench once installation is complete.
- Indoor shelf or rack with a dedicated 240V AC GPO in Communications Hut or other suitable area (Uninterruptible Power Supply (UPS) required if running directly from generators)
- Erect fencing around completed antenna; required if members of the public have access to the area.

Work not covered under standard install costs, if not itemised at time of order, include:

- Cutting concrete or rock and relaying concrete.
- Induction training greater than 1 hour.
- Blood, alcohol and drug tests and police clearances.
- Electrical work (i.e. 240V AC).
- Working with Asbestos (ACM).
- Removal of excess soil.
- Removal of packing material.
- Cutting down or cutting back of trees and shrubs.

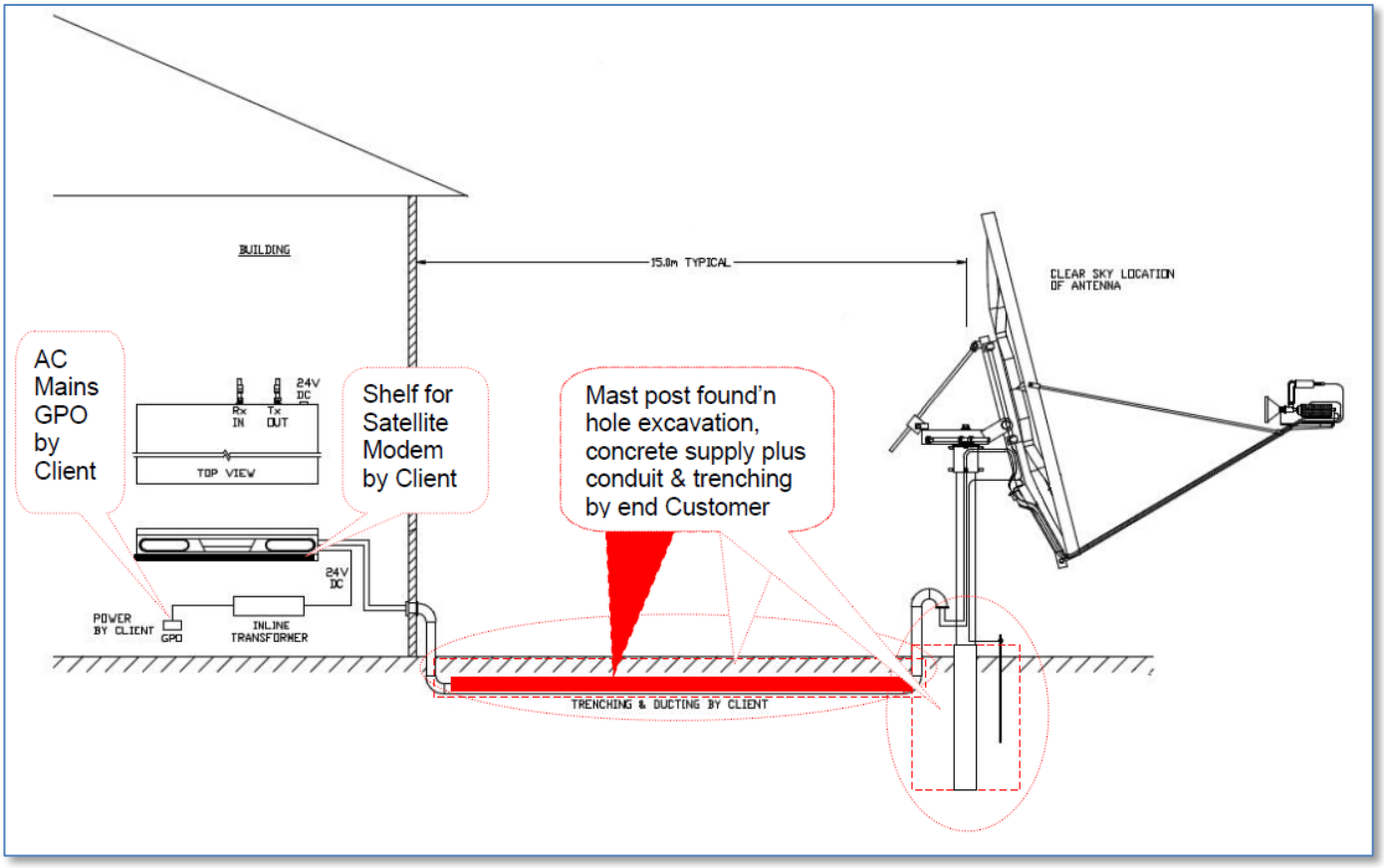

Figure 1: Schematic of Typical Arrangement

3 Satellite Antenna Location

The location of the satellite antenna is vital for correct operation. The antenna must have a clear sky access (clear line-of-sight) between the antenna and satellite. There should be no obstructions, such as buildings, trees, vegetation or terrain.

It is a requirement that the antenna is installed in a location that is not accessible to the public or children. If this cannot be avoided fencing may be required. Refer to Section 11, Page26 for fencing details. Also review Section 229, Page 22 for further details regarding EME.

Also consider if any temporary structures or passing vehicles will cross the line of sight path. Particular attention should be paid to the possibility of vegetation which may grow over time and cause obstruction. Contact Telstra Iterra-IP on 02 8202 5287 or 02 8202 5288, ! SSBO Support@team.telstra.com for assistance if required.

The following is to be used as a guide only to determine the location of the antenna with clear sky access to the satellite. Actual look angles and antenna direction vary from location to location, so if there is any doubt please contact Telstra Iterra-IP.

Some examples are as follows:

- East Coast - Brisbane
    - Clear Sky to the North East (NE) with a look angle (elevation) of 55 degrees from horizontal
- West Coast - Perth
    - Clear Sky Access to the North East East (NEE) with a look angle of 25 degrees from horizontal
- West Coast – Port Hedland
    - Clear Sky Access to the North East East (NEE) with a look angle of 32 degrees from horizontal
- North Coast - Darwin
    - Clear Sky to the North East East (NEE) with a look angle (elevation) of 47 degrees from horizontal
- Central Australia – Alice Springs
    - Clear Sky Access to the North East (NE) with a look angle (elevation) of 45 degrees from horizontal
- Central South Coast – Adelaide
    - Clear Sky Access to the North East (NE) with a look angle (elevation) of 40 degrees from horizontal
- South Coast – Melbourne
    - Clear Sky Access to the North Noth East (NNE) with a look angle (elevation) of 41 degrees from horizontal

For exact information you can visit the web site www.dishpointer.com. Select the location by latitude and longitude and the satellite, (166° Intelsat IS-19). The result will provide accurate elevation and look angle for the antenna.

The Dishpointer website also provides details of a handy app for iPhone or Android which combines the functions of Dishpointer to calculate the line-of-sight to the satellite, with the built in camera to deliver an "augmented reality satellite finder" – ie the camera view of the sky is overlaid with markers showing the position of various satellites in the sky.

If in doubt please contact Telstra Iterra-IP on 02 8202 5287 or 02 8202 5288,
! SSBO Support@team.telstra.com

Figure 2: An example of clear line-of-sight over the tree top

4 Site Access Controls

The Exclusion Zone must be rendered inaccessible by applying access restrictions such as signage, fencing and barriers. It is important that signage is appropriately located to provide a warning to people approaching the antenna that they are approaching a Radio Frequency hazard.

For EME Exclusion Zones and EME requirements refer to Sections 9 (Page 22), 11 (Page26) and 12 (Page 27).

4.1 Site Located on Private Land/ Leased/ Restricted Access Area

Where the satellite antenna is to be located on private land, for example, mining, oil or gas leases, restricted access areas or similar, and is not accessible by members of the general public it is not a requirement to fence the installation, although the customer may need to do so if fencing is the most appropriate control measure to prevent or minimise the level of risk in the EME Exclusion zone.

As a minimum the warning lable in Figure 3 is required to be fitted to the antenna. This will be provided by Telstra.

In addition, local regulations or Workplace Health & Safety guidelines may require the erection of the following access control measures:

- Bunting/flags
- Bollards
- Warning/advisory signs- Telstra can supply suitable signs if required

It is your responsibility to ensure compliance with these obligations as part of your general compliance with EME safety standards.

4.2 Signage

Each antenna installed will have the warning lable in Figure 3 fixed to the bottom leading edge of the reflector.

Figure 3: Transmitting Antenna sign

In addition the sign in Figure 4 below must be affixed to any fence/barrier advising of the presence of EME exclusion zones, and that access is restricted to authorised personnel only. An example of a suitable sign, available from Telstra or directly from the manufacturer (Brady Australia www.bradyid.com.au) is Figure 4.

Figure 4: Advisory sign for perimeter fence

5 100mm DWV Pipe for Underground Cable Run

The underground duct pipe must be supplied by the customer unless previously arranged with Telstra Iterra-IP.

The pipe recommended to use is ***Australian Standard 100mm DWV*** (Drain Waste and Vent) Pipe. This pipe has an Outside Diameter of 114mm. This is standard sewer pipe, and available from any hardware or plumbing supplier. This has been selected not only for its universal availability, but for the ease of installation and availability of a wide range of fittings.

Note: All fittings for connection to both ends of the horizontal duct pipe are supplied by Telstra Iterra-IP. This includes all bends, glue, flange fittings, and end covers, plus glands and fixings.

Figure 5: 100mm DWV Sewer Pipe

DO NOT use 100mm communications conduit as this cannot be adapted to the bends and fittings supplied with the Telstra Iterra-IP supplied installation kit, to be installed by the installation contractor.

6 In-Ground Pole Mounts

For In-ground pole mounts, ensure the hole size is correct, based on soil type and wind requirements as per **Table 6-1** and **Table 6-2**.

Failure to excavate the hole to the correct size and depth will result in an inadequate structural footing, which in turn may cause movement or failure of the structure in high wind conditions.

Note that Telstra Iterra IP Satellite supplies the pole as part of the kit of installation materials. It is not required to be sourced locally..

Table 6-1: Soil Type Classifications

Type A	Type B	Type C
Coarse grained soil, compact sand, gravel min allowable soil pressure = 150 kPa	Silt, fine silty sand, granular soil with conspicuous clay content min allowable soil pressure = 200 kPa	Stiff clay min allowable soil pressure = 250 kPa

Figure 6: Concrete Pour

Table 6-2: Hole size for In-Ground Pole Mounts

	1.2m 1134	**1.8m 1194**	**1.8m 2194**	**2.4m 1244**	**2.4m 2244**
Pole Diameter (OD)	73.2mm	141mm	168.3mm	168.3mm	168.3mm
Pole Type	SCH 40	SCH 40	SCH 40	SCH 40	SCH 40
Pole Length	4200mm	2150mm	2150mm	2700mm	2700mm
Soil Type A					
Footing Diameter	600mm	900mm	1000mm	900mm	1200mm
Footing Depth	1300mm	1200mm	1600mm	1500mm	1600mm
Pole Embedment	910mm	972mm	1088mm	1170mm	1470mm
Concrete Volume	0.37m^3	0.76m^3	1.26m^3	0.95m^3	1.81m^3
Soil Type B					
Footing Diameter	600mm	900mm	900mm	900mm	1200mm
Footing Depth	1100mm	1200mm	1500mm	1500mm	1600mm
Pole Embedment	770mm	972mm	1020mm	1170mm	1470mm
Concrete Volume	0.31m^3	0.76m^3	0.95m^3	0.95m^3	1.81m^3
Soil Type C					
Footing Diameter	550mm	700mm	900mm	900mm	1200mm
Footing Depth	1000mm	1200mm	1500mm	1500mm	1600mm
Pole Embedment	700mm	970mm	1020mm	1170mm	1470mm
Concrete Volume	0.24m^3	0.46m^3	0.95m^3	0.95m^3	1.81m^3

6.1 Concrete Requirements

The supply of concrete to site is the responsibility of the customer, unless specifically arranged through Telstra Iterra-IP in advance. The preferred concrete is to be **rapid-cure** premixed concrete **(hot mix)** from a commercial batching plant. If not available, the necessary volume of 20kg bags of dry mix **rapid-set** concrete is to be provided. If rapid set is not available, liquid Quickset additive should be added to the mix prior to pouring.

Pre-mixed concrete shall be a minimum of Grade N15 (15 MPa), with 20mm nominal maximum aggregate size, and have a maximum concrete slump of 120 mm.

If pre-mixed concrete is not available, the concrete may be mixed on site.

Refer to **Table 6-2: Hole size for In-Ground Pole Mounts** for required quantities.

The 100mm DWV conduit and riser pipe needs to exit the concrete about 150 to 200mm away from the actual mast post. This maintains structural strength of the concrete under high wind loads.

6.1.1 Placement of Concrete

All concrete shall be placed against undisturbed soil. Concrete must not be placed until all loose soil is removed from the excavation. The concrete shall be protected by a damp-proof membrane where placement is in aggressive soil such as permeable soils with pH<4, or with ground water containing more than 1 g/l of sulphate ions, or salt-rich soils in arid areas.

Embedment depth of the mounting tube shall be no less than 70% of the depth of the concrete footing. Nominal cover to embedded mast shall be 65mm to all faces. All concrete shall be worked to ensure that it is thoroughly compacted, and all excess air voids removed.

The top surface of the pier shall be rough trowelled finish and sloped to ensure that no water will collect at the base of the mast.

The 100mm DWV conduit and riser pipe needs to exit the concrete about 150 to 200mm away from the actual mast post. This maintains structural strength of the concrete under high wind loads.

Figure 7: Post and Cable Run Riser installed

7 Non-Penetrating Mounts

There are two options of mounting the frame of a Non-Penetrating mount, whether held down by Ballast such as Besser blocks or bolted via ChemSet Bolts to a concrete pad.

7.1 Ballast Requirements

The recommended ballast requirements are a guide only. Each site's requirements can vary; refer to the Non-Penetrating Mount Assembly manual for detailed calculations.

Table 7-1: Ballast Requirements

	1.2m 1134	**1.8m 1194**	**1.8m 2194 (HW)**	**2.4m 1244**
Weight of total Ballast	336kg	685kg	1598kg	812kg
Besser Blocks	21	70	80	52
20kg Bags of Concrete	5	24	30	13
OR				
90mm Solid Blocks	23	48	112	58

7.1.1 Installation of Ballast and Concrete

1. Recommended ballast material is the standard pressed concrete "Besser" Block, nominal dimensions of 20cm x 20cm x 40cm, filled with premixed concrete. These blocks will weigh approximately 11.4 kg each, depending on local variation. Average weight of blocks should be determined for correct ballast amount.

   or

   90mm Solid Blocks can be used rather than the besser block and concrete option. Standard dimensions are 39cm x 19cm x 9cm. These blocks weigh approximately 14.3kg each depending on local variation. Average weight of blocks should be determined for correct ballast amount.

2. Place ballast blocks equally on all frames beginning either side of the center leg and working outward with 5 blocks on either side. (8-10 blocks on bottom row). If more than 40 blocks are needed, begin a second layer on top of the first. Place the additional blocks (per total ballast requirement) such that the blocks are offset (50% overlapping), and completely fill all cavities with premixed concrete to lock the upper layer of blocks to the lower layer.

3. Use a metal trowel to smooth finish the tops of all Besser blocks, upper and lower layer blocks as applicable. Clear and remove all excess (overflowed) concrete around the blocks and ballast trays, and use a wet brush and water, or wet sponge or rag to clean all cement from the sides of the concrete blocks and steelwork.

Figure 8: Besser Blocks only installed

7.2 Concrete Pad Requirements

7.2.1 Option A - Attach Non-Penetrating Mount to Concrete Pad

If the non-penetrating mount will be fixed to the concrete pad, (for instance fixing it down with Chemset Anchor bolts). **Dynabolts MUST NOT be used**, as they are not structurally strong and are subject to corrosion.

The concrete pad needs to be built to the following minimum specifications:

- 3.6m x 3.6m x .5m deep. (around 2.9 cubic metres).
- For structural strength, - it needs to have 1 layer of 16mm deformed bar reo (12 rods x 2m), fixed in a 6 x 6 grid, and set half depth in the concrete.
- Excavate and bed this into undisturbed soil, such that it has a minimum of 100mm above finished ground level.
- The 100mm DWV (sewer Pipe) needs to be laid into the slab, with a vertical riser offset about 60cm from the centreline of the pad, towards one edge (not towards a corner or it will be under one of the cantilevered legs).

NOTE: Brackets may need to be fabricated on site to allow fixing to concrete slab.

USE CHEMSET ANCHORS - DYNABOLTS MUST NOT BE USED

7.2.2 Option B - Concrete pad as Level Surface for Non-Penetrating Mount

If the concrete pad is to act as a flat base to sit the mount onto and still use conventional Besser blocks and infill for the ballast, the pad needs to be built to the following specifications:

- 1.8m Antennas
  At least 3.6m x 3.6m, 12cm deep with 1 layer of 6mm, 200x200mm weldmesh.

  2.4m Antennas
  At least 4m x 4m, 12cm deep with 1 layer of 6mm, 200x200mm weldmesh.

- The 100mm DWV (sewer Pipe) needs to be laid into the slab, with a vertical riser offset about 60cm from the centreline of the pad, towards one edge (not towards a corner or it will be under one of the cantilevered legs).

8 Indoor Modem Installation

It is the Customer's responsibility to provide a dedicated Australian Standard 240VAC 10A Filtered Mains General Purpose Outlet (GPO) for the sole use of the Satellite Modem.

If the equipment is operating directly from a generator an Uninterruptible Power Supply (UPS) is required. Iterra IP Satellite can specify or supply a suitable UPS at additional cost by prior arrangement.

It is the Customer's responsibility to provide a suitable shelf located close to the Customer's required connection point, and close to the AC Mains GPO for the satellite modem plus any other equipment associated with the installation.

The Satellite Modem is designed to operate in ambient conditions up to 40°C. It does not have an internal cooling fan, but requires minimum 50mm free space ventilation around the sides and top of the satellite modem.

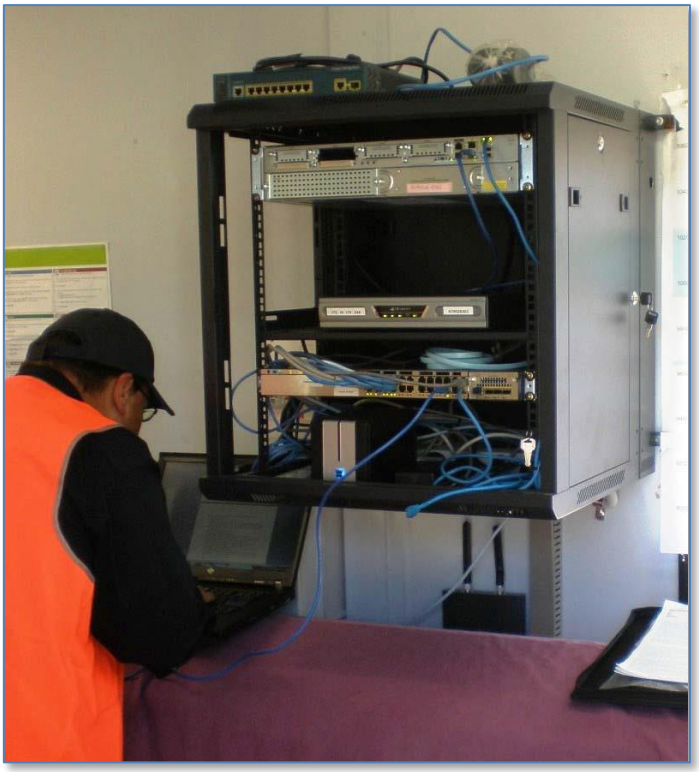

Figure 9: Typical Comms Hut Install

9 Transportable Installation

Finding a suitable location for the trailer requires flat ground, 240V AC power nearby and clear line of site to the satellite, refer to Section 3 Satellite Antenna Location, page 9 for details regading clear line of site.

Refer to the Auto Deploy Trailer User Manual (ITT-DOC-10003) for detailed instruction to set up, operation and EME considerations when using the trailer.

10 EME Notice to Site Owners and Operators

All telecommunications radio facilities emit radio frequency electromagnetic energy (**RF EME**).

The *Radiocommunications Act 1992* (Cth) and the Australian Radiation Protection and Nuclear Safety Authority (**ARPANSA**) regulate emissions from telecommunications radio facilities. The *Radiation Protection Standard for Maximum Exposure Levels to Radiofrequency Fields - 3 kHz to 300 GHz (2002)* published by ARPANSA, sets limits for the exposure of the general public and trained radio frequency workers to RF EME.

It is important that site owners and managers and facility operators are aware of the areas near a telecommunications radio facility that are safe to access and those where access should be restricted. This is done through access restrictions such as fencing, barriers and signage.

The purpose of this document is to ensure that you, as a site owner or manager and/or facility operator, are aware of and able to access important information regarding your site.

Having ready access to up-to-date information will assist you to ensure that you, your visitors and, where applicable, the general public, do not enter restricted areas and that the site is managed safely. If you have further queries regarding your obligations to maintain site safety, you will need to obtain your own legal advice.

Set out below is information about:

- Site and equipment details;
- Electromagnetic Energy (**EME**);
- EME safety standards;
- EME Exclusion Zones;
- Access controls;
- Equipment installation and safety manuals;
- EME Assessment Reports; and
- Fault Reporting Procedures.

10.1 What is EME?

Electromagnetic energy (**EME**) is the energy stored in an electromagnetic field. It is emitted by natural sources like the sun and the earth, and by man-made sources such as television, radio, mobile phones and satellite radio services.

Radio Frequency EME is also referred to as RF Radiation, EMR (electromagnetic radiation), RF Fields and EMF (electromagnetic fields).

10.2 EME Safety Standard

In Australia, the EME safety standard is set by the Australian Radiation Protection and Nuclear Safety Agency (**ARPANSA**), and regulated by the Australian Communications and Media Authority (**ACMA**) – the independent regulator of the nation's telecommunications industry.

The safety standard is based on a careful analysis of the scientific literature (both thermal and non-thermal effects) and is designed to offer protection against identified health effects of EME with a large in-built safety margin.

Compliance with the safety standard is part of Telstra's responsible approach to EME and radio communications technology. Once installed, owners and managers and facility operators should also comply with the safety standard to ensure the health and safety of its visitors and the general public.

10.3 EME Exclusion Zones

The Telstra Iterra® IP Satellite service uses a radio transmitter connected to a highly directional dish antenna. The dish antenna focuses the radio signal into a narrow beam aimed at the satellite.

The size of the satellite dish antenna typically varies from 1.2 metres to 2.4 metres in diameter, and the power of the radio transmitter (BUC) varies from 1 Watt to 16 Watts according to the specific model of equipment supplied and the requirements of the site.

Calculations have demonstrated that the EME levels outside of the satellite dish itself are many times below the ARPANSA EME safety standard applicable for the general public.

The exception to this is the EME **exclusion zone** defined for each combination of satellite dish (antenna) and radio transmitter (BUC) (together called "**the Facility**"). Typically this is the area between the launcher and the surface of the dish. The EME exclusion zone is the area shown in red and yellow in the sample figure below.

The exclusion zone must not be entered without first arranging to switch off the transmitter. This can be done by powering off the Facility's modem at the power point **prior to** accessing the Facility.

Detailed drawings of the exclusion zone relating the antenna size and RF power can be found in Attachment 1.

The **yellow exclusion zone** (refer Figure 8-1 below) may only be accessed by a trained Radio Frequency Worker after the antenna has been switched off.

The **red exclusion zone** is a 'no access' area and must not be entered by anyone (refer Figure 8-1 below).

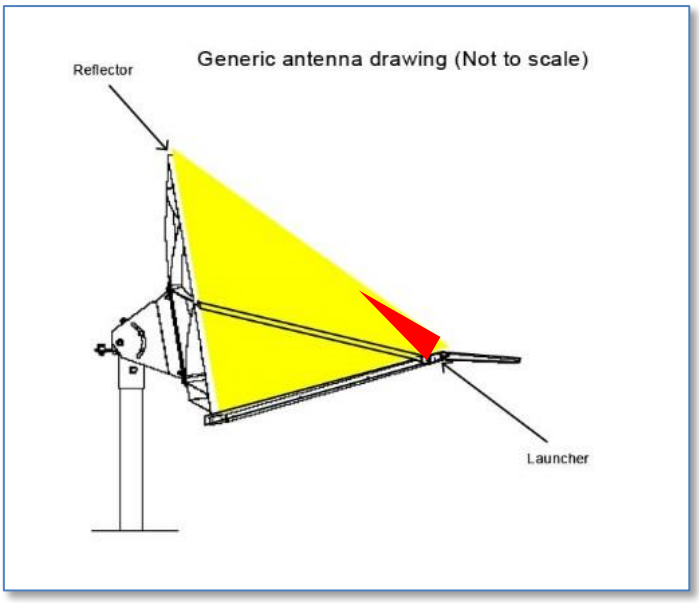

Figure 10: Generic EME Exclusion Zone diagram

Under NO circumstances should any part of the head or body be placed in front of the antenna.

Figure 11: No part of the head or body should to be placed in EME Exclusion Zone !

11 Fencing Enclosure

Specifications for fencing and access controls are detailed below. When fencing is to be required to prevent access to the exclusion zone as described in Section 12, Page 27' it must be installed at the same time as the antenna installation and commissioning occurs.

The fence should be constructed of standard widely available wire mesh or cyclone fencing material with galvanised poles for support. Care should be taken when excavating for fence poles to avoid disturbance or damage to the buried conduit containing the satellite antenna cables. There should be a lockable access gate on one side.

Particular attention should be paid to ensure that the fencing does not interfere with the satellite antenna look angle towards the satellite. The satellite installer or the Iterra Satellite team can provide specific guidance on this as the minimum distance from the edge of the dish to the fence will vary according to the geographic location and the height of the look angle towards the satellite.

The fence should also provide a minimum of 900mm clearance on all sides to permit access for maintenance and inspection.

Local conditions may dictate that the fence be topped with barbed wire or similar climbing deterrence measures but this is not a universal requirement.

As a guide the following table identifies the minimum fencing size requirements assuming the antenna is installed central to the fenced area.

Table 11-1: Fencing Dimension

Antenna Size	Fence Height	Dimension
1.2m on 4m pole	Fencing not required	
1.8m 1194 / 2194	1.8m	5m x 5m
2.4m 1244 / 2244	1.8m	6m x 6m

11.1 Sites where livestock may be present

If the site is located where livestock, particularly cattle, may be present, it is advisable that the antenna be fenced to avoid service outages caused by cattle bumping or rubbing against the dish and moving it out of alignment. Livestock may also chew on cables if unprotected.

12 EME Eclusion Zones

You should not access Exclusion Zones, which are areas close to the antennas. The following diagrams identify the EME Exclusion Zones.

The **red exclusion zone** is a ‘no access’ area and must not be entered by anyone.

The **yellow exclusion zone** may only be accessed by a trained Radio Frequency Worker after the antenna has been switched off.

The **White zone** is general access.

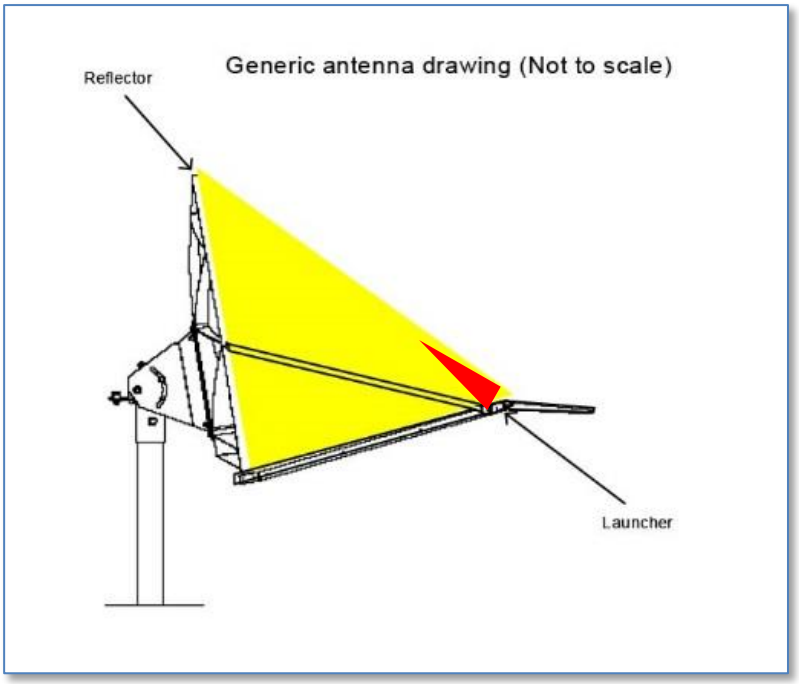

Figure 12: Generic EME Exclusion Zone diagram

13 EME Eclusion Zones

13.1 1.2m 4W BUC EME Exclusion Zone

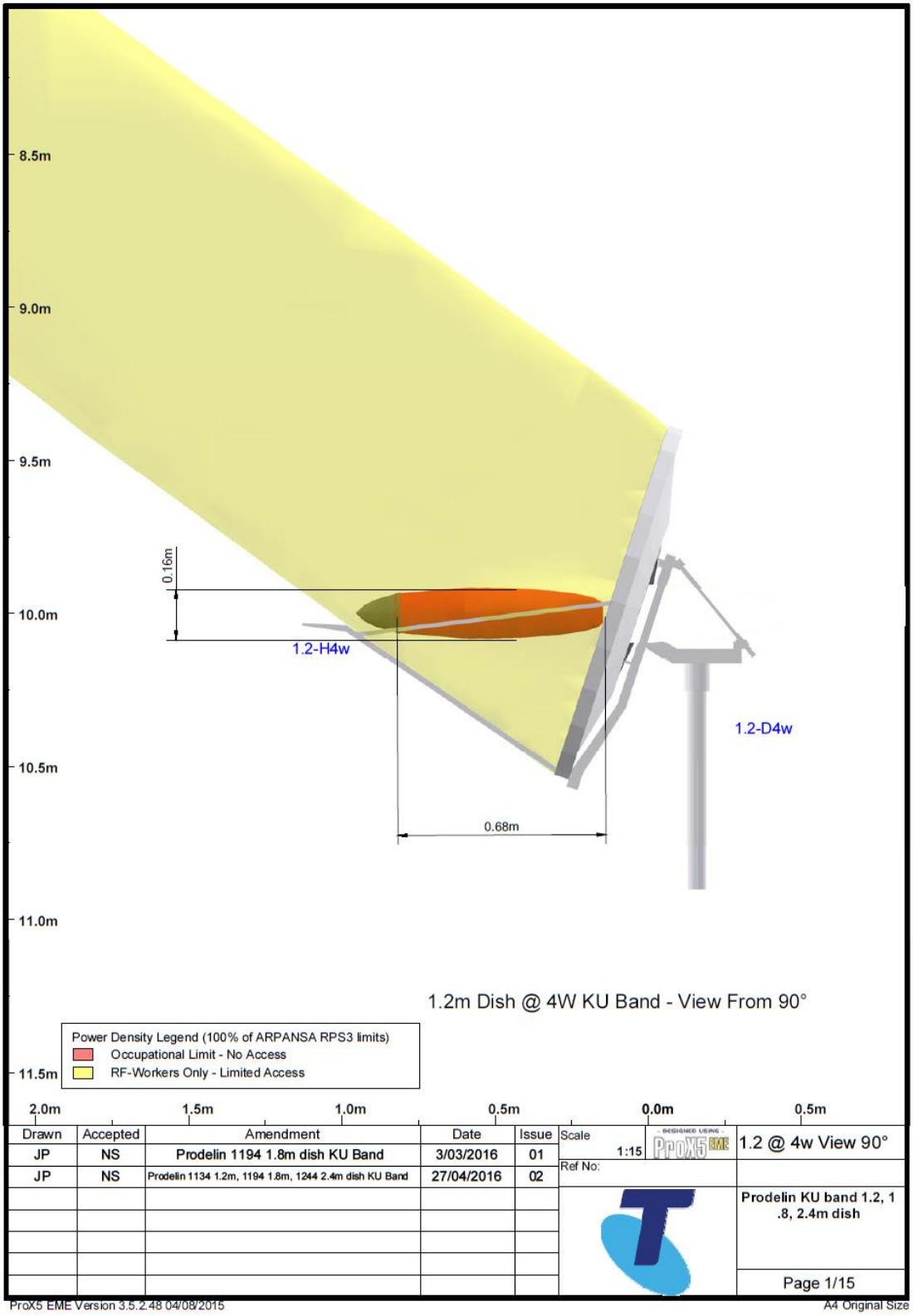

Figure 13: 1.2m, 4W BUC EME Exclusion Zone diagram

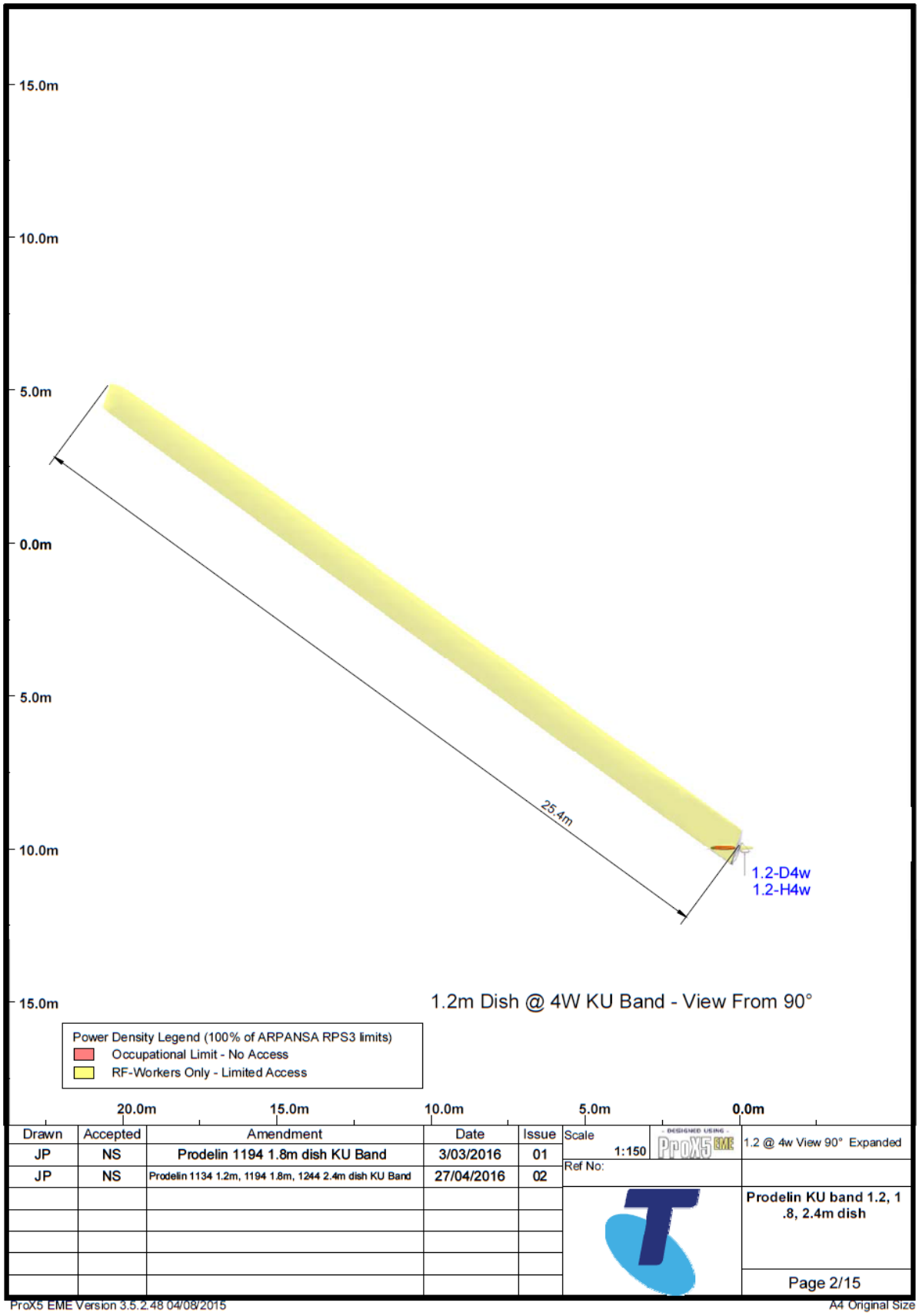

Figure 14: 1.2m, 4W BUC Extended EME Exclusion Zone diagram

13.2 1.2m 6W BUC EME Exclusion Zone

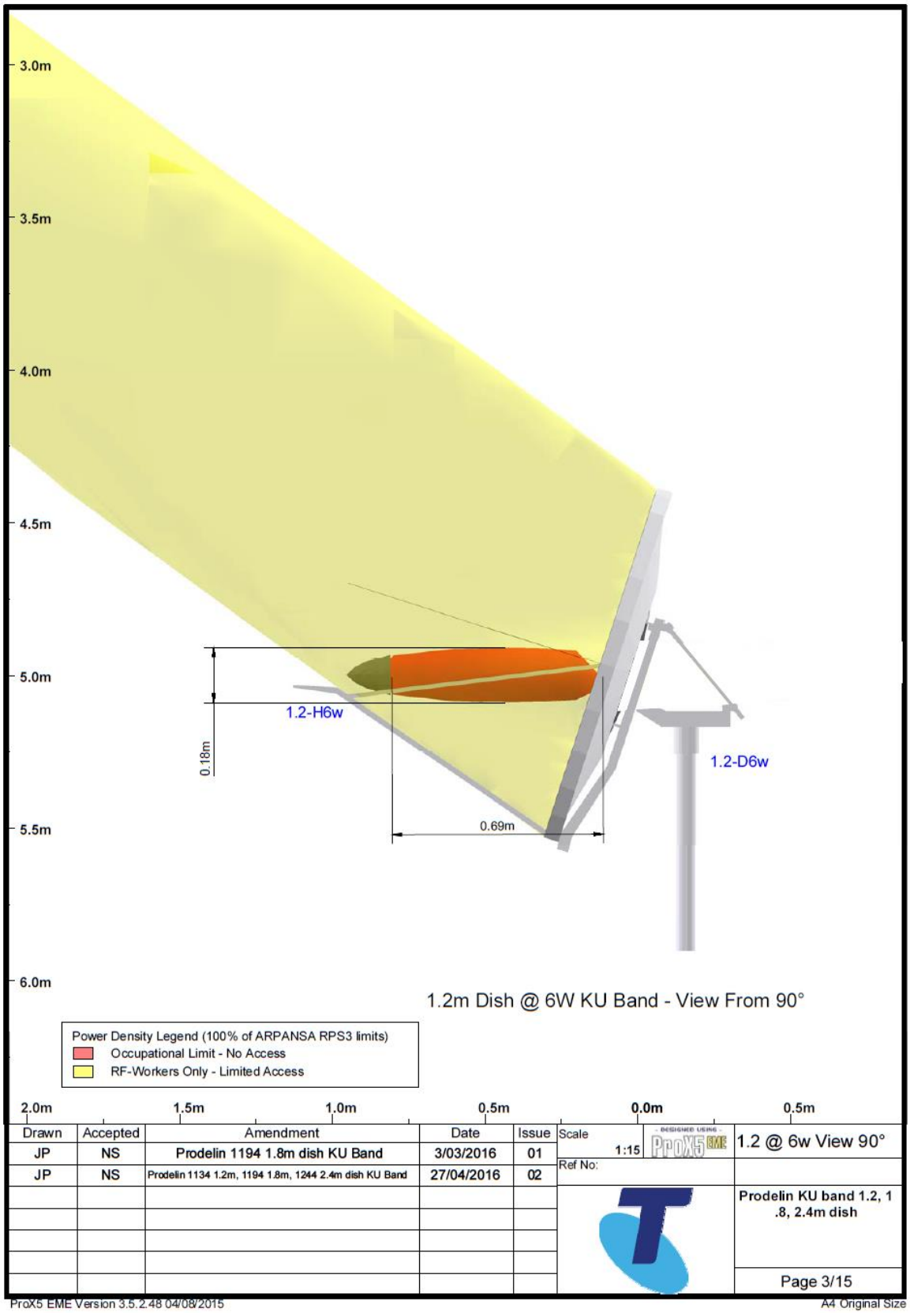

Figure 15: 1.2m, 6W BUC EME Exclusion Zone diagram

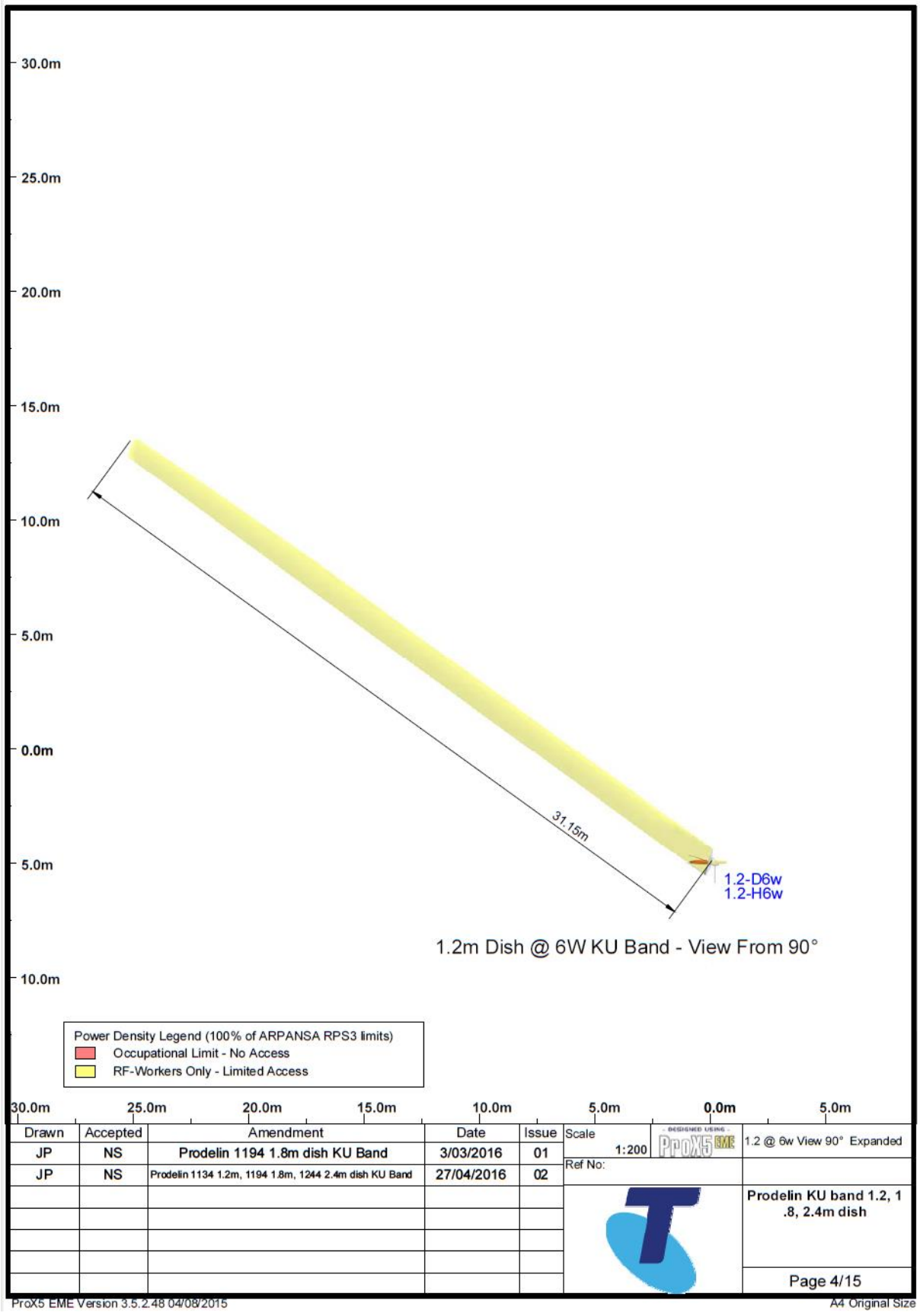

Figure 16: 1.2m, 6W BUC Extended EME Exclusion Zone diagram

13.3 1.8m 4W BUC EME Exclusion Zone

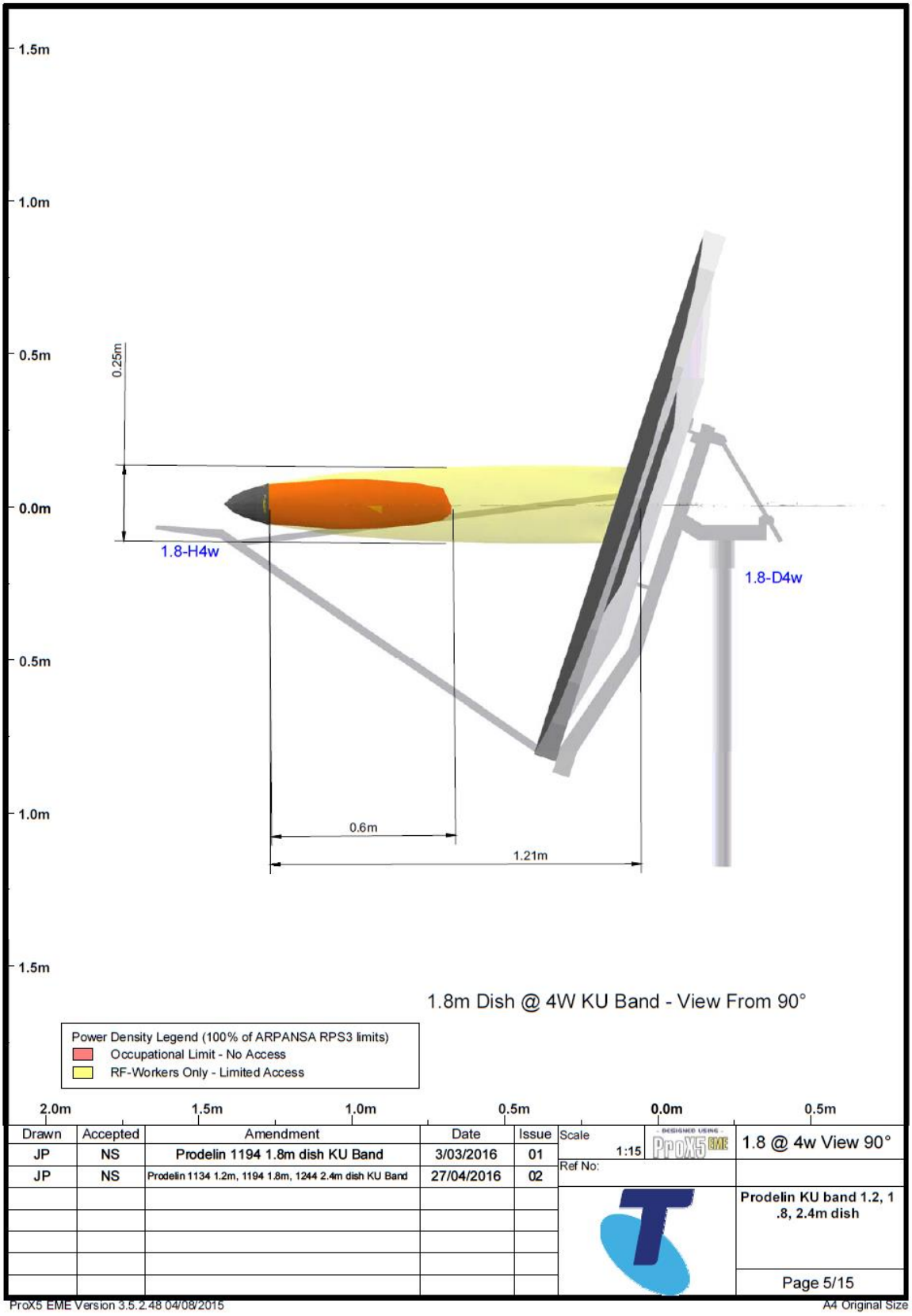

Figure 17: 1.8m, 4W BUC EME Exclusion Zone diagram

13.4 1.8m 6W BUC EME Exclusion Zone

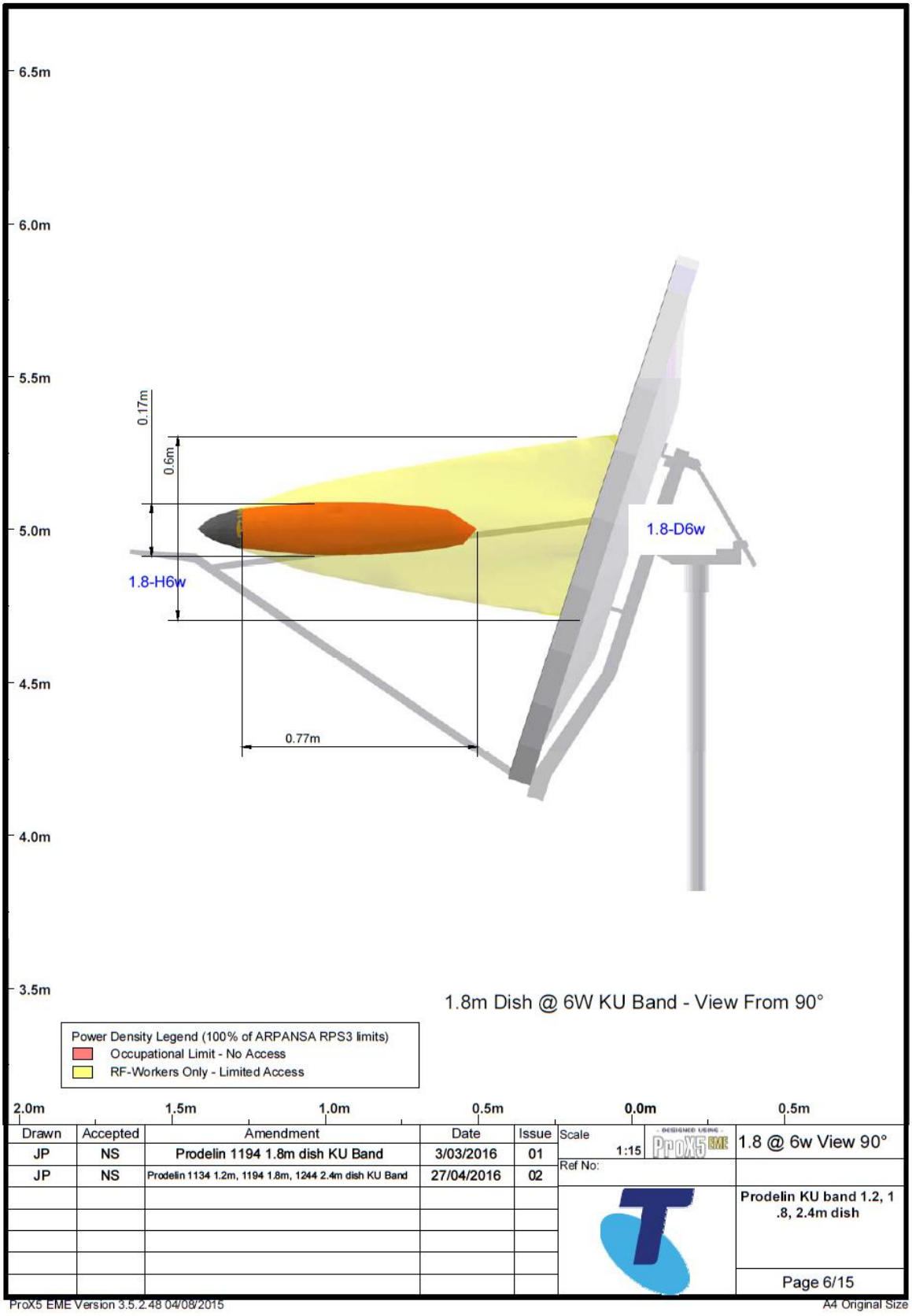

Figure 18: 1.8m, 6W BUC EME Exclusion Zone diagram

13.5 1.8m 8W BUC EME Exclusion Zone

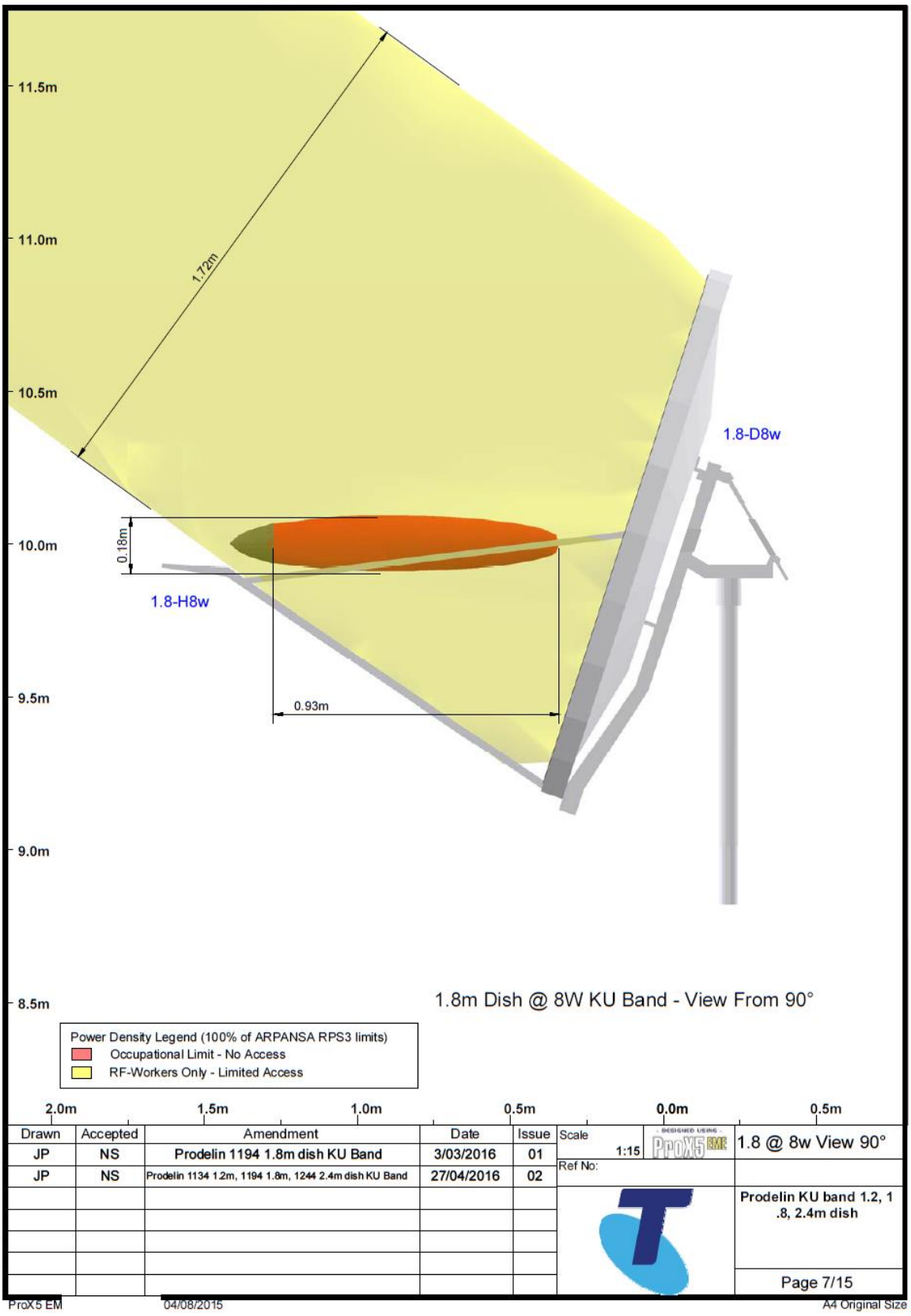

Figure 19: 1.8m,8W BUC EME Exclusion Zone diagram

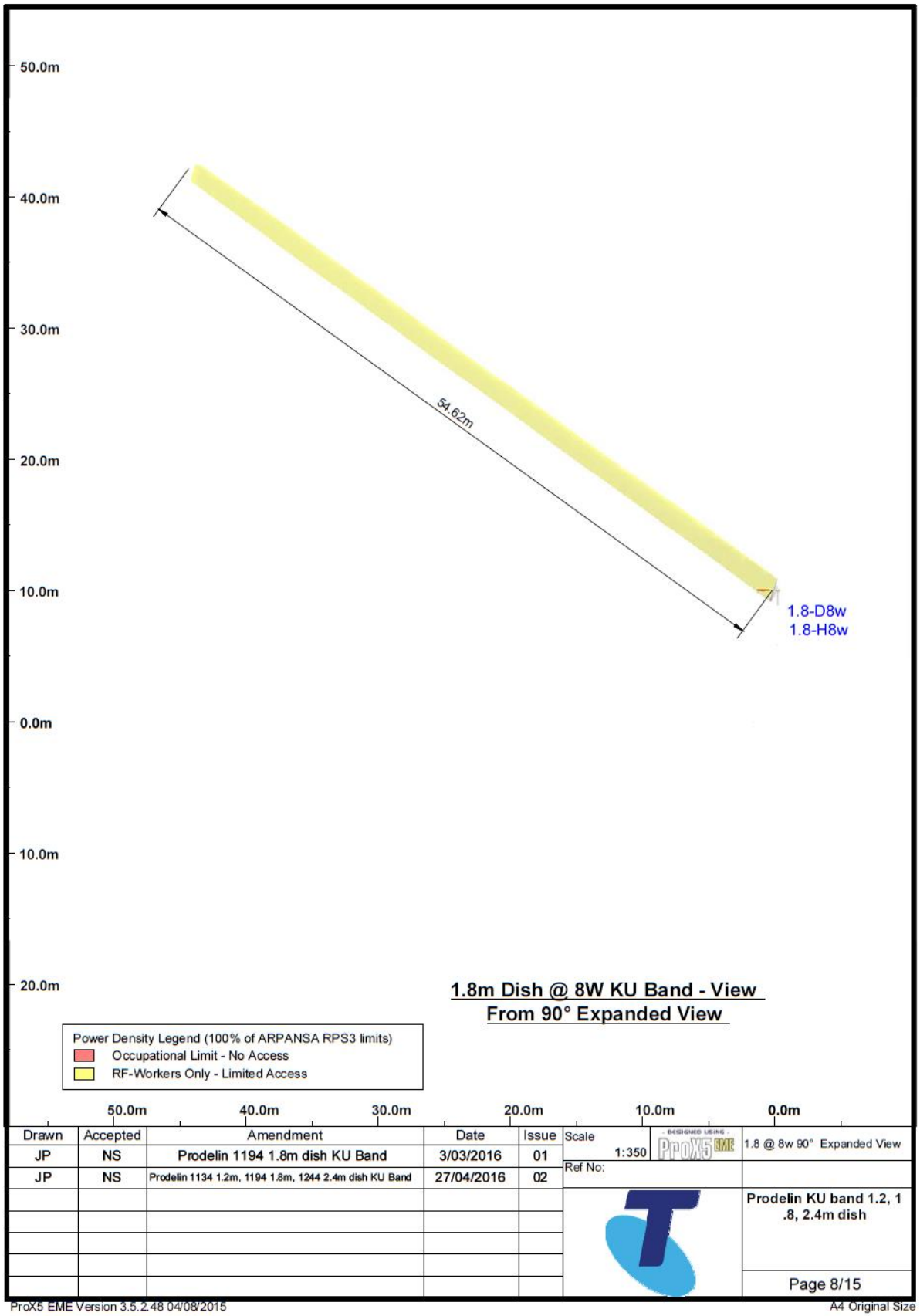

Figure 20: 1.8m, 8W BUC Extended EME Exclusion Zone diagram

13.6 1.8m 16W BUC EME Exclusion Zone

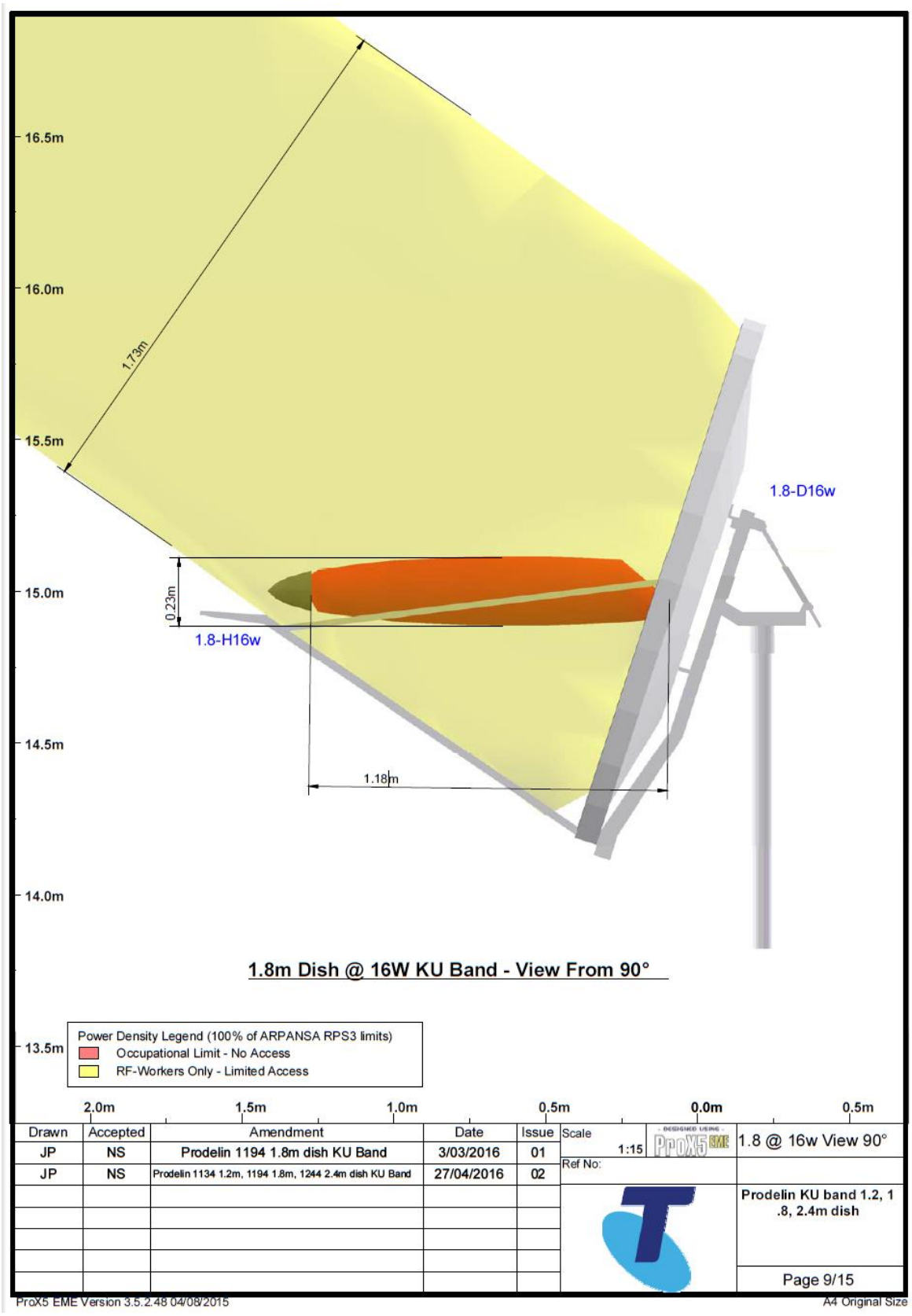

Figure 21: 1.8m, 16W BUC EME Exclusion Zone diagram

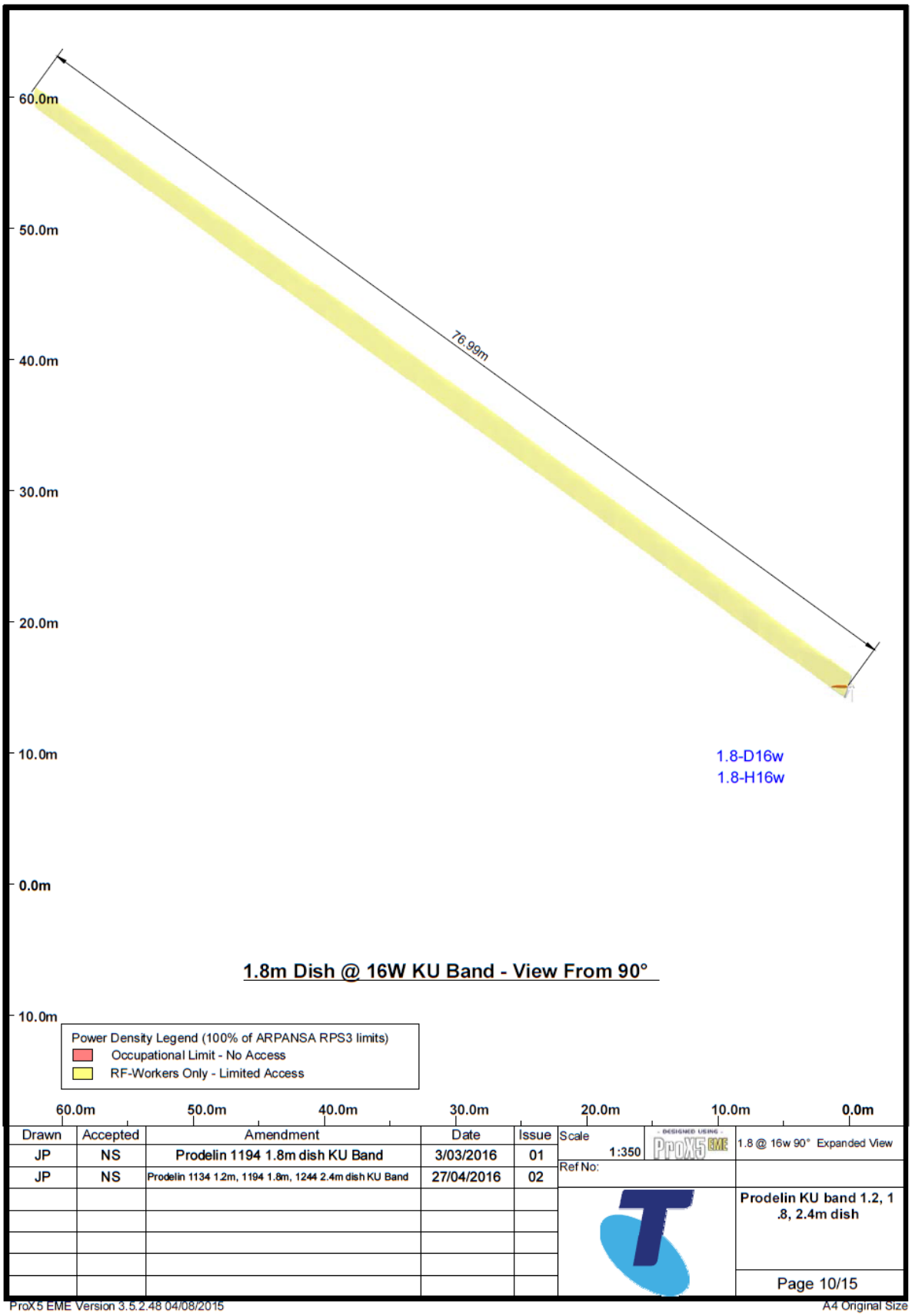

Figure 22: 1.8m, 16W BUC Extended EME Exclusion Zone diagram

13.7 2.4m 4W BUC EME Exclusion Zone

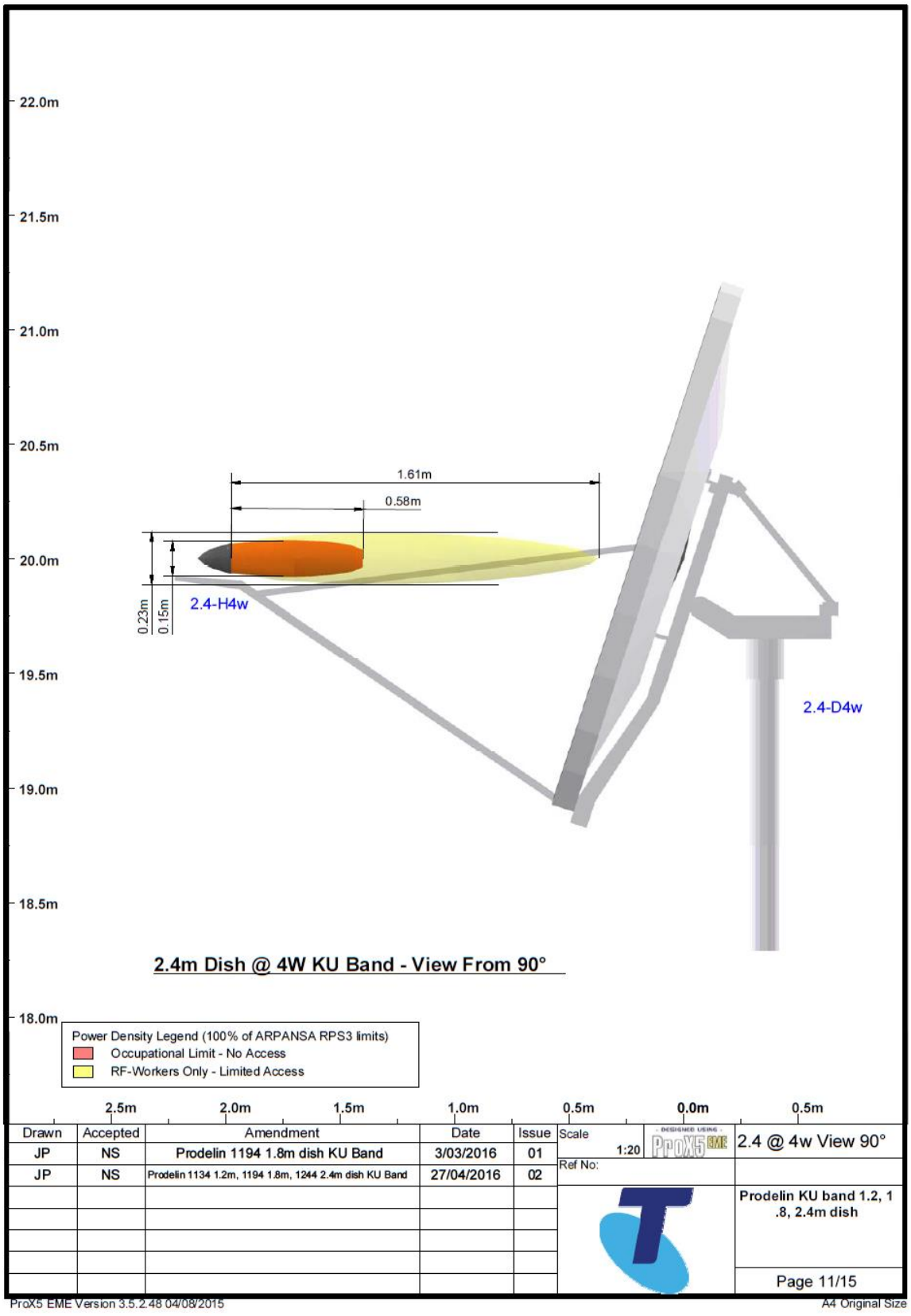

Figure 23: 2.4m, 4W BUC EME Exclusion Zone diagram

13.8 2.4m 6W BUC EME Exclusion Zone

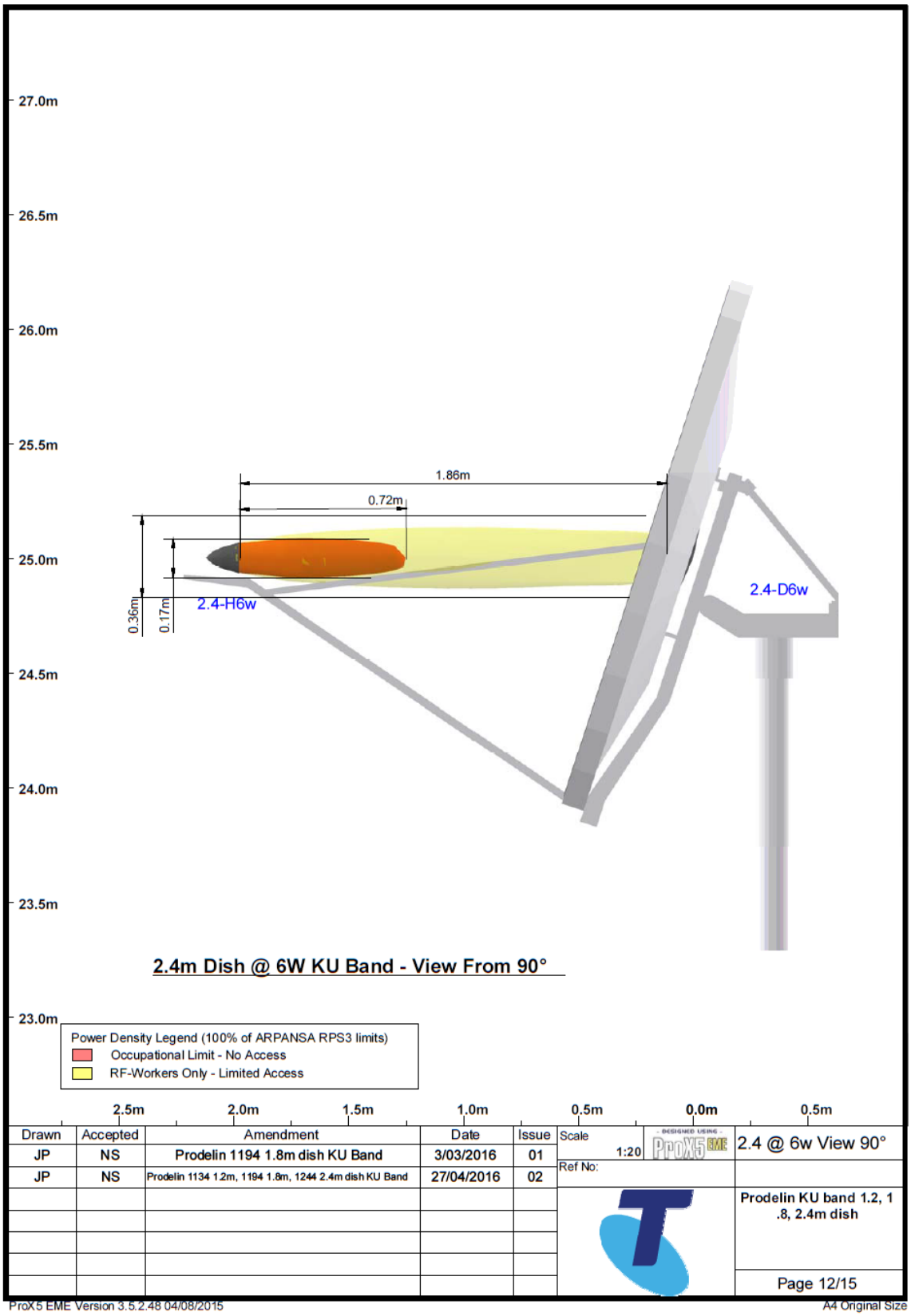

Figure 24: 2.4m, 6W BUC EME Exclusion Zone diagram

13.9 2.4m 8W BUC EME Exclusion Zone

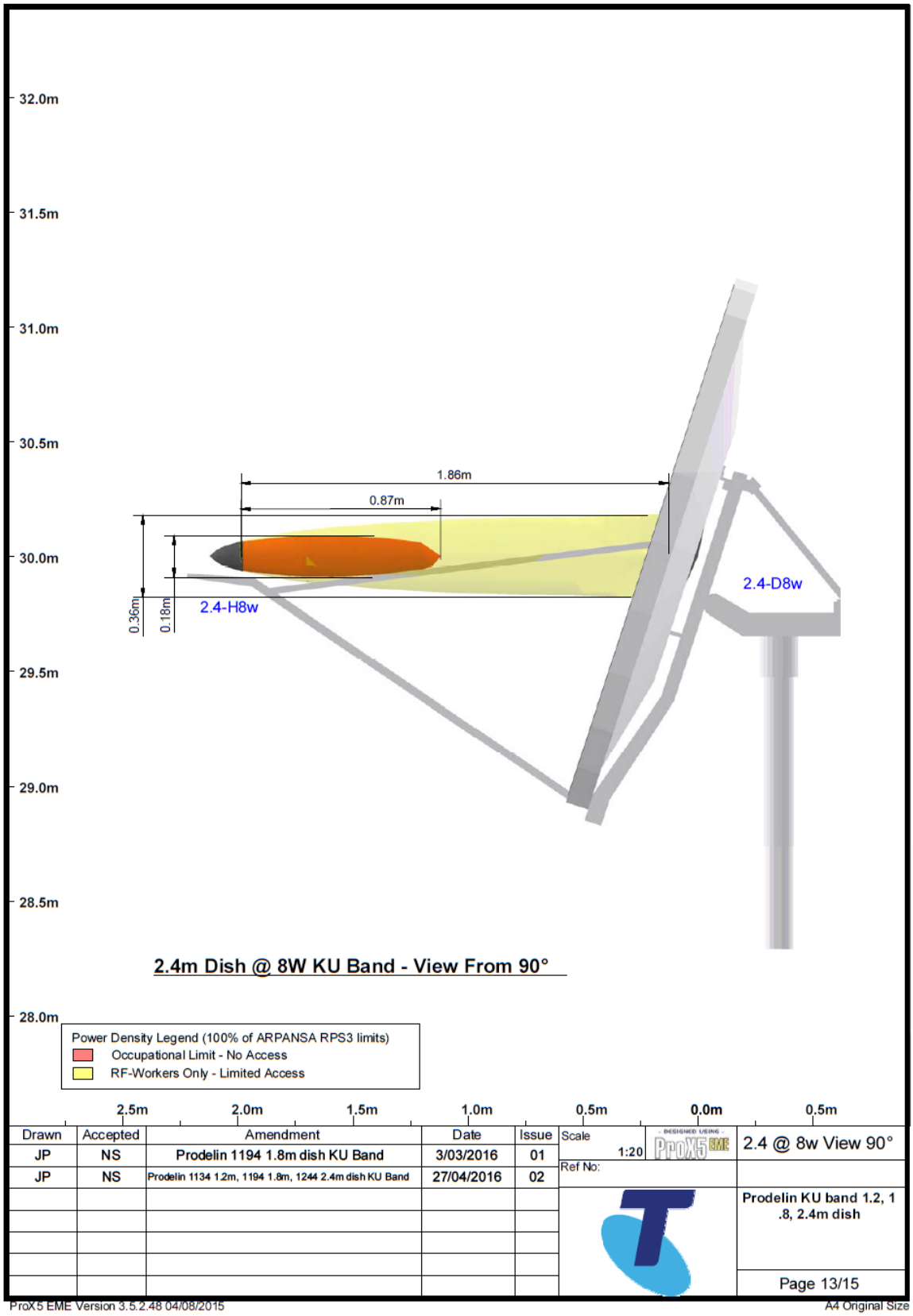

Figure 25: 2.4m, 8W BUC EME Exclusion Zone diagram

13.10 2.4m 16W BUC EME Exclusion Zone

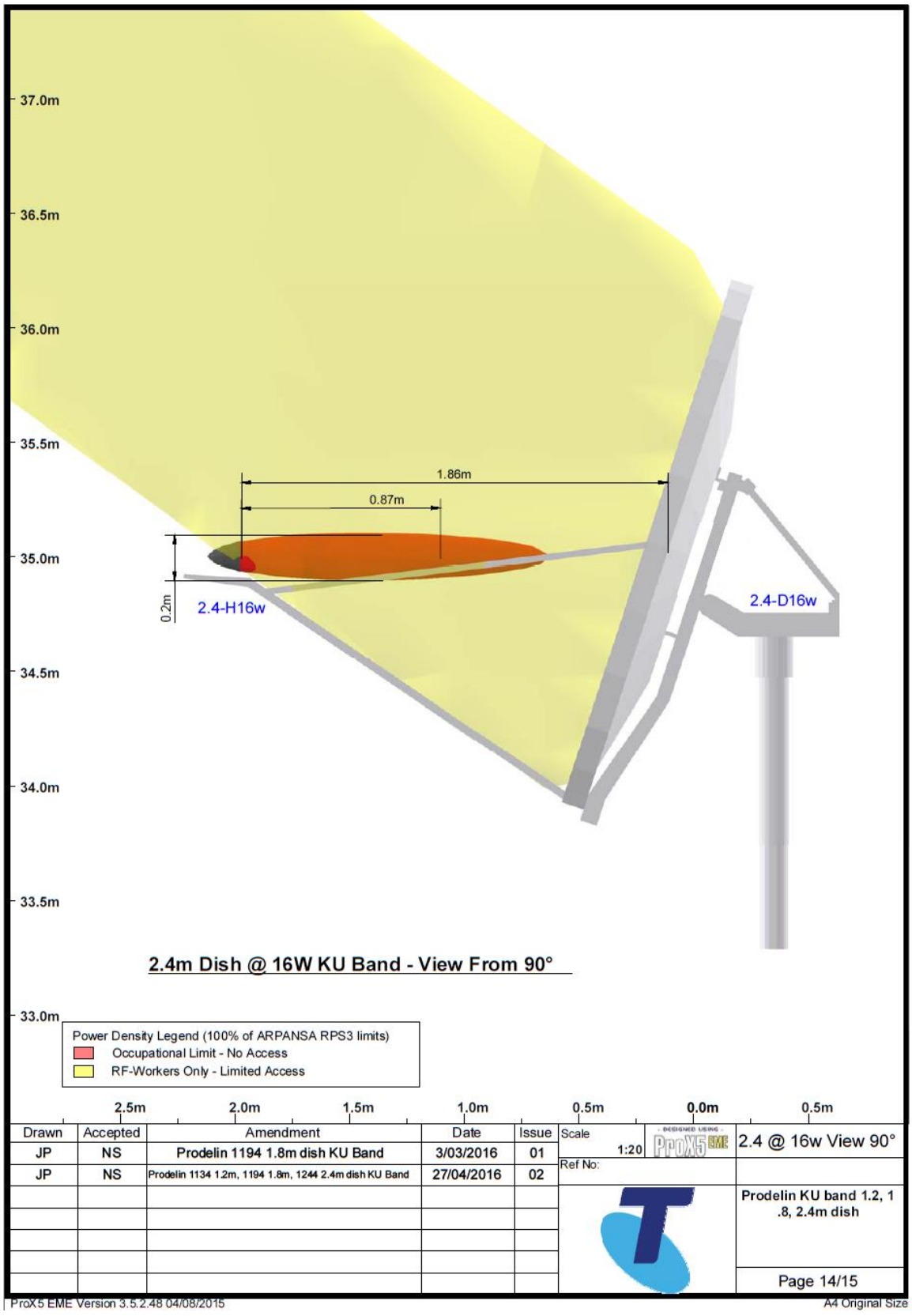

Figure 26: 2.4m, 16W BUC EME Exclusion Zone diagram

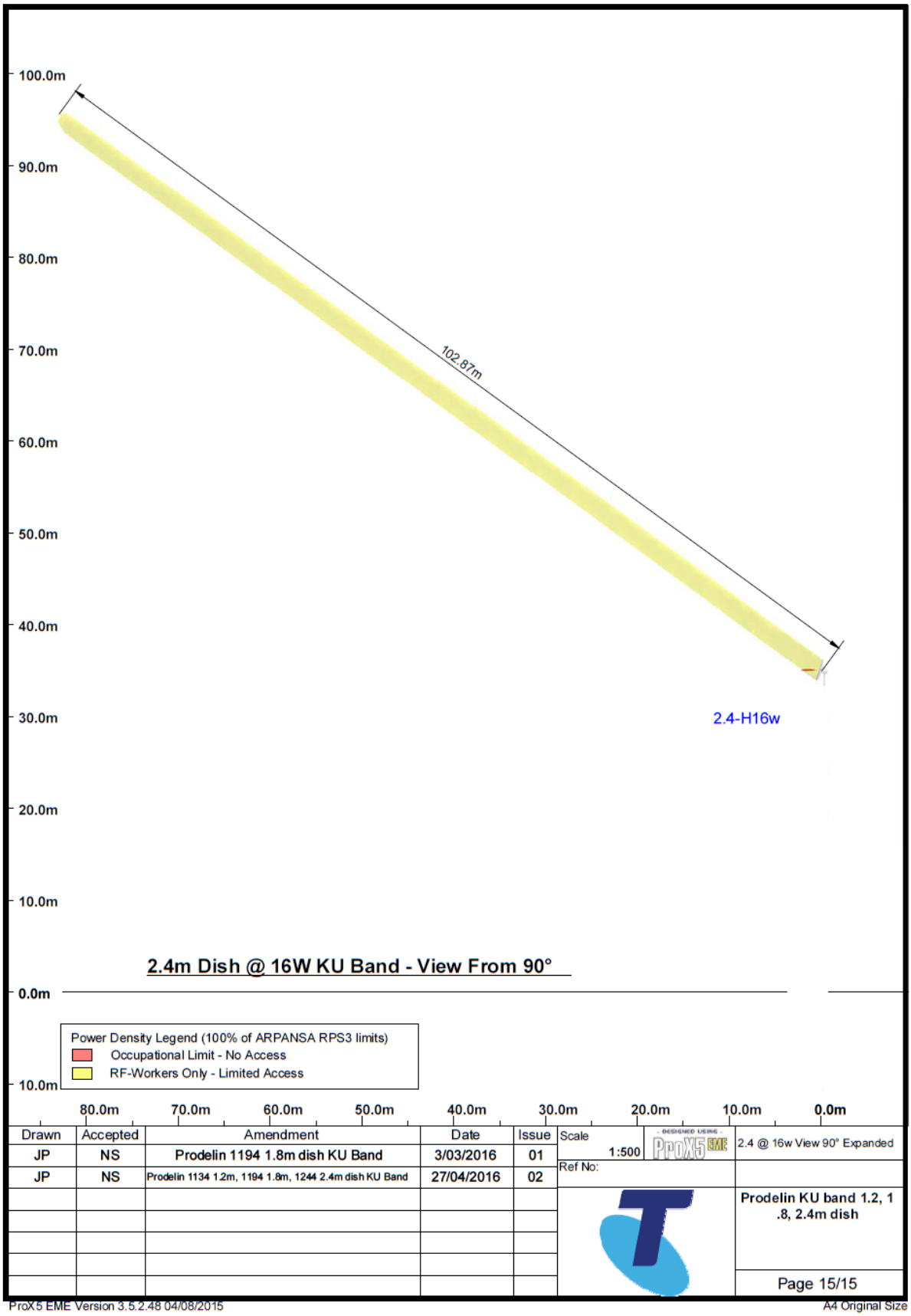

Figure 27: 2.4m, 16W BUC Extended EME Exclusion Zone diagram