Thank you very much for notifying us about the public consultation about 10 W PMSE use at 606.7 and 607 MHz. We are grateful to you for the good and thorough compatibility analysis that you have undertaken and reported in your 'High power PMSE in Channel 38: Consultation' document. The information supplied was clear and sufficient and enabled us to evaluate the impact on radio astronomical observations in The Netherlands, Belgium, Germany and France.

As the result of our own calculations and discussions between CRAF members from the Netherlands, Belgium and Germany we found that we can support your conclusion:

A5.13 ‘High power audio links can be deployed in channel 38 and still protect the RAS in the Netherlands providing the assigned channels are below 608 MHz. If ERP is limited to 10 dBW then audio links can be deployed up to 607.86 MHz before the interfering power starts to increase beyond that derived from the spurious emission limit.'

Reasons:

We had looked at the 10W 607 MHz (case A) and a hypothetical 1W in-channel deployment on 610 MHz of 1 W PMSE devices (case B) in the south of England. Case B was only investigated to get an understanding of the impact of possible in-channel operations of PMSE equipment.

For closest reference points on the U.K. mainland w.r.t. Westerbörk we had used Lowestoft (52 28 45.0 N 1 45 10.0 E, d= 330 km) and for Humain, Dover Castle (51 7 47.0 N 1 19 17.0 E, d= 296 km) was used. The distances agreed with those given in your document. As Effelsberg and Nancay are further away, we did not make a separate investigation for those two observatories.

For case A we find a minimum coupling loss requirement (MCL) of -159 dB and for case B the relevant number is -201 dB.

We have used not only the ITU-R P.452 but also the P.1546 propagation model to estimate the path loss without terrain effects and ducting propagation. The latter model has been used extensively here in Germany for the coordination work on channel 38 as 608 MHz is already outside the realm of P.452 and indeed one finds that path loss estimates may disagree by up to 10 dB over the distances in question. In addition we also used Mike Willis public domain programme 'pathprofile' to account for terrain attenuations. Pathprofile usually agrees with with the P.452 results if ducting is excluded. We note that the use of the P. 452 propagation model provides an additional safety margin and see its use as a conservative estimate of the propagation conditions.

CRAF commonly uses a 2% abnormal propagation probability in its calculations, as that is in line with the 2% 'acceptable probability of interference' for bands the RAS shares with other services (ITU-R RA.1513).

In that case the propagation between the U.K. and the continental RAS stations is dominated by ducting. In the 2% case A we get only a marginal compatibility for Lowestoft - WSRT with 163 dB path loss, for Humain, the terrain shielding plays a greater role with 176 dB path loss, however a low power in-channel PMSE operation (case B) would be ruled out for southern England.

Ofcom had used a 10% probability of anomalous propagation in their analysis. In that case, the ducting contribution is much less and we get 190 dB for Lowestoft - Westerbörk and for the Dover - Humain victim link we find a path loss of 200 dB. These losses are close to what estimates for long-distance troposcatter according to P.452 would provide.

From the deployment statistics of high power PMSE equipment, we see that there have been roughly 20 uses per year in the critical regions in southern England which, combined with the 10% anomalous propagation probability, would for case A still give an acceptably low probability of interference at the two over the course of a year.

We therefore accept the conclusion of A5.13 of the Ofcom report. We would also like to confirm the results of previous analysis, that a an in-channel use of 1 W PMSE equipment in the south of England is likely to lead to significant interference at Westerbörk and even Humain RAS stations.