



Recommendation WG 3.91.029

**CONTENT OF DIRECT INTERFERENCE
CASE REPORTS**

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RECOMMENDATION

Subject: Coordination

Title: Content of direct interference case reports

Background:

Responses to prior coordination notifications that include potential direct interference cases vary throughout the industry in their format and technical content. With multiple configurations operating and planned on a given path, the correlation between interference analyses and the reported cases is difficult or impossible when incomplete technical details and calculations are not provided.

All technical data items necessary to perform the interference calculation, as well as items useful in reviewing the cases, should be provided for the paths and stations involved. This includes site names and call signs, latitudes and longitudes, elevations, radio equipment and loading, antennas and centerlines, and powers and line losses. Geometries of the carrier and interfering paths, antenna discrimination angles and values, and interference objectives and margins should also be provided. Ability to specify O-H loss values and the resultant margins is desirable. Footnote capability is necessary to specify use of automatic transmitter power control (ATPC), identification of diversity antenna cases, etc.

Recommendation:

Frequency protectors should provide complete technical details of direct interference cases in response to prior coordination notifications. The attached sample formats provide the desired level of technical detail for terrestrial and earth station cases. The A/B/C/D box structure showing the paths/stations causing and receiving the interference and the table showing antenna discriminations and interference margins for each polarization combination define the standard reporting format. Presentation of the remaining data within this structure is subject to individual preference.

Support:

Lack of complete technical data can make correlation of interference cases difficult or impossible. Comparison of calculations for discrepancies also is impossible. Frequency protectors can expect the inconvenience of follow-up requests for additional information when they do not provide it with initial prior coordination notification responses. The Use of a standard basic reporting structure will remove the burden of understanding numerous different formats.

Recommended: WG3.91.029
Approved: 04-27-92
To Membership: 09-09-92

MCI TELECOM
01-18-91

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6023-023

INTERFERENCE CASE ANALYSIS
POINT-TO-POINT MICROWAVE RADIO

INTERFERING PATH --- SOUTHWESTERN BELL TELEPHONE COMPANY (P8035)

(A) YUKON , OK WKR86 (B) OKLAHOMA CTY, OK KSW26
35-33-54.00 97-42-58.00 1330 35-28-16.00 97-30-53.00 1218

PATH LENGTH (A-B): 13.07 MI 5945.20V (11T)
PATH AZIMUTH (A->B): 119.6 DEG 5974.85H (12T) 6004.50V (13T)
EQUIPMENT: RAYT RS-641 6034.15H (14T) 6063.80V (15T)
2U6901 30000F9Y .0020%
LOADING: 1344 CH DIG 8PSK
POWER (@A): 37.0 DBM
LINE LOSS (@A): 3.0 DB
CENTERLINE (@A): 70 FT

DISTURBED PATH ----- MCI TELECOMMUNICATIONS CORPORATION (P5192)

(C) SARA , OK WOJ26 (D) OKLA CTY 2 , OK WHQ615
35-34-24.00 97-41-40.00 1295 35-28-06.00 97-31-02.00 1196

PATH LENGTH (C-D): 12.34 MI 5945.20H (11T)
PATH AZIMUTH (D->C): 306.0 DEG 5974.85V (12T) 6004.50H (13T)
EQUIPMENT: NORT CXP7UJRD6C3 6034.15V (14T) 6063.80H (15T)
27D201 30M0 D7W .0010% 6093.45V (16T) 6123.10G (17T)
LOADING: 2016 CH DIG 64QAM 6152.75U (18T)
POWER (@C): (W/ATPC) 22.0 DBM
LINE LOSS (@C): 5.0 DB
RECEIVE LEVEL (@D): -24.7 DBM
CENTERLINE (@D): 401 FT

INTERFERING PATH LENGTH (A-D): 13.04 MI
INTERFERING PATH AZIMUTH (A->D/D->A): 120.7 DEG / 300.9
DEG

-----DISCRIMINATION-----
ANTENNA DATA: GAIN ANGLE HH HV VV VH
(A) WEST B67600 KS15676,BD 43.0 1.0 13.2 20.4 8.5 22.4
(C) ANDR A79514 UHX12-59J RF 44.8
(D) ANDR A73354 SHX10C1 42.7 354.8 47.6 59.0 48.0 59.0

TOTAL DISCRIMINATION 60.8 68.4 56.5 67.5
CALCULATED C/I 56.1 63.7 51.7 62.7

INTERFERENCE OBJECTIVE
71.0 DB C/I Q 0.0 MHZ MARGINS (L-O-S) -7.3 -8.3

OVER-THE-HORIZON LOSS MARGINS w/O-H LOSS
0.0 DB LONG TERM (20%) LONG TERM -7.3 -8.3
0.0 DB SHORT TERM (.01%) SHORT TERM
FROM 3" DIGITIZED DATA

NOTES: SPECIAL RECEIVERS USED AT SITE "D"
* DIVERSITY RECEIVE ANTENNA CASE *

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INTERFERENCE CASE ANALYSIS
EARTH STATION INTO POINT-TO-POINT MICROWAVE RADIO

INTERFERING EARTH STATION --- EQUATORIAL COMMUNICATIONS SERVICES

(A) OKLAHOMA CTY, OK E85973
35-31-10.00 97-36-12.00 1296

ANTENNA: EQUATORIAL COMMUN FREQUENCIES:
C-201-3013-01 6076.1 - 6081.1 MHZ
CENTERLINE: 16 FT 6105.8 - 6110.8 MHZ
SATEKKUTE ARC: 91 - 101 DEG W
TRANSMIT POWER: -28.0 DBW/4KHZ
EMISSION: 4M92 G1D

DISTURBED PATH ----- MCI TELECOMMUNICATIONS CORPORATION (P4545)

(C) SARA , OK WOJ26 (D) OKLA CTY 2 , OK WHQ615
35-34-24.00 97-41-40.00 1295 35-28-06.00 97-31-02.00 1196

PATH LENGTH (C-D): 12.34 MI 5945.20H (11T)
PATH AZIMUTH (D->C): 306.0 DEG 5974.85V (12T) 6004.50H (13T)
EQUIPMENT: NORT CXP7UJRD6C3 6034.15V (14T) 6063.80H (15T)
27D201 30M0 D7W .0010% 6093.45V (16T) 6123.10G (17T)
LOADING: 2016 CH DIG 64@AM 6152.75U (18T)
POWER (@C): (W/ATPC) 22.0 DBM
LINE LOSS (@C): 5.0 DB
RECEIVE LEVEL (@D): -24.7 DBM
CENTERLINE (@D): 401 FT

INTERFERING PATH LENGTH (A-D): 6.10 MI
INTERFERING PATH AZIMUTH (A->D/D->A): 125.9 DEG / 306.0
DEG

-----DISCRIMINATION-----
ANTENNA DATA: GAIN ANGLE VALUE (WORST CASE)
(A) EQUA C-201-3013-01 36.0 -11.5 DB HORIZON GAIN
(D) ANDR A73354 SHX1OC1 42.7 0.0 0.1 DB

CALDUALTED INTERFERING LEVEL -129.6 DBW/4KHz

INTERFERENCE OBJECTIVE MARGINS (L-O-S)
-154.0 DBW/4KHz LONG TERM (20%) LONG TERM -24.4 DB
-131.0 DBW/4KHz SHORT TERM (.0025%) SHORT TERM -1.4 DB

OVER-THE-HORIZON LOSS MARGINS w/O-H LOSS
0.0 DB LONG TERM (20%) LONG TERM -24.4 DB
0.0 DB SHORT TERM (.0025%) SHORT TERM -1.4 DB
FROM 3" DIGITIZED DATA

NOTES:

"C" SSITE IS OWNED BY NEBRASKA CONSOLIDATED COMMUNICATIONS

RADIO EQUIPMENT AT "D" IS COLL AJN9U0-8102

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INTERFERENCE CASE ANALYSIS
POINT-TO-POINT MICROWAVE RADIO INTO EARTH STATION

INTERFERING PATH --- MCI TELECOMMUNICATIONS CORPORATION (P5192)

(A) MOUNT HOLLY , PA WLJ32 (B) HERSHEY , PA WLJ33
40-06-19.00 77-12-32.00 920 40-15-05.00 76-39-45.00 784

PATH LENGTH (A-B): 30.62 MI 5945.20H (11T)
PATH AZIMUTH (A->B): 70.6 DEG 5974.85V (12T) 6004.50H (13T)
EQUIPMENT: NORT CXP7UJRD4C1 6034.15V (14T) 6063.80H (15T)
27C501 20M0 D7W .0010% 6093.45V (16T) 6123.10G (17T)
LOADING: 1344 CH DIG 64QAM 6152.75U (18T)
POWER (@A): 27.5 DBM
LINE LOSS (@A): 5.0 DB
CENTERLINE (@A): 280 FT

DISTURBED EARTH STATION ----- CABLESYSTEMS OF JERSEY CITY

(D) JERSEY CITY , NJ JERSEY
40-42-38.00 74-05-05.00 70

FREQUENCIES:
3700 - 4200 MHZ

ANTENNA: SCIENTIFIC-ATLANTA
8005
CENTERLINE: 10 FT
SATELLITE ARC: 67 - 143 DEG W
EMMISSION: 36000F9

INTERFERING PATH LENGTH (A-D): 164.86 MI
INTERFERING PATH AZIMUTH (A->D/D->A) 77.1 DEG / 256.8 DEG

-----DISCRIMINATION-----
ANTENNA DATA: GAIN ANGLE VALUE (WORST CASE)
(A) ANDR A54670 UMX12-459 41.3 4.2 18.6 DB
(D) SCIE 8005 43.3 8.2 DB HORIZON GAIN

CALDUALTED INTERFERING LEVEL -125.3 DBW/4KHz

INTERFERENCE OBJECTIVE MARGINS (L-O-S)
-145.0 DBW/4KHz LONG TERM (20%) LONG TERM -19.7 DB
-135.0 DBW/4KHz SHORT TERM (.0025%) SHORT TERM -9.7 DB

OVER-THE-HORIZON LOSS MARGINS w/O-H LOSS
47.5 DB LONG TERM (20%) LONG TERM -19.7 DB
11.1 DB SHORT TERM (.0025%) SHORT TERM -9.7 DB
FROM 3" DIGITIZED DATA

NOTES:

"B" SITE IS WONED BY HERSHEY TELEPHONE COMPANY