new MDS stations, FCC Form 494,24 by excluding certain data elements which have yielded information that is no longer necessary or of only marginal utility. Specifically, we proposed to eliminate queries regarding the antenna vertical sketch and the narrative description of why grant of the application would be in the public interest. We further proposed to exclude the following parameters of the transmission system: transmitter manufacturer and model number, transmitter output power, transmitting antenna gain and the specification of transmission line and other transmission losses. We observed that with regard to transmitters, we are only concerned that MDS licensees operate transmitters that are "type-accepted" by the Commission for use in this service. Accordingly, we proposed to eliminate the requirement that the applicant identify the transmitter make and model, and simply require that the conditional licensee certify that its transmitter is "type-accepted" in its certification of completion of construction, currently FCC Form 494A. The MDS rules now provide for a maximum EIRP, rather than a maximum value for transmitter output power. See 47 CFR 21.904. Thus, the Notice stated, so long as the EIRP remains within the limits of Section 21.904, it is not necessary to require applicants to specify the equipment parameters used to calculate EIRP. The Notice also proposed to allow changes to these transmission parameters without notification to the Commission, provided the resulting EIRP would not change. The station power to be specified on the application form would be the maximum EIRP in the horizontal plane, i.e., the EIRP at an angle of zero degrees in the vertical plane. We proposed to permit electrical beam tilting of antennas; however, in all cases, applicants would be required to specify the EIRP in the zero degree vertical (horizontal) plane. Where beam tilting is employed, the EIRP at the zero degree vertical angle will be less than the maximum EIRP at the tilt angle, due to the vertical suppression characteristic of the transmitting antenna. In most instances, this value of EIRP closely approximates the power radiated to the radio horizon which is most relevant to interference analysis. By proceeding in this manner, we would not need to

collect data on antenna vertical radiation patterns.

50. The Notice proposed to further modify the long-form application in an effort to make the form compatible with an electronic filing system. At the present time, we propose to use a new long-form application together with the current FCC Form 430, the Licensee Qualification Report. An appendix to the Notice listed data elements and other informational items for our proposed new electronic application form, including general, engineering and legal elements. For example, we proposed to retain engineering data elements necessary for analysis of interference or possible air safety hazards, such as transmitting antenna site coordinates, EIRP, antenna polarization, site elevation and antenna structure height above ground. Other data would be used to verify an applicant's compliance with a particular Commission rule, such as when antenna beam width is used to calculate the maximum allowable EIRP of a station using a directional transmitting antenna. We also proposed to retain applicant responses which demonstrate compliance with a particular statutory requirement, such as an environmental assessment.

51. In reference to applicants locating stations in areas where notification or coordination with Canada or Mexico is required by international agreement, the Notice indicated that these applicants would be required to submit the following additional technical data, which were not proposed as standard data elements in the electronic longform application: transmitter output power, transmitting antenna gain and transmission line loss. In addition to the EIRP at a vertical angle of zero degrees, applicants in the border areas will be required to specify the maximum EIRP at the vertical angle corresponding to the beam tilt. The Notice explained that the additional data requirements could be submitted in a textual exhibit to the electronic application or a paper supplement.

52. Resolution. With some additional clarification, we will adopt the proposals raised in the Notice, including the free space equation and the proposed data elements for the long-form application. A draft long-form application, FCC Form 304, is attached to the Report and Order.²⁵ We will develop computer programs that will help to streamline the processing of the

long-form and modification applications of MDS incumbents and BTA authorization holders. A program is being designed that will perform cochannel and adjacent channel interference analysis at one degree intervals along the protected 35-mile circle of incumbents' authorized stations or protected station proposals. This program, as envisioned, will use the Commission's three-second terrain data base to check for unobstructed signal paths between the site of the station being studied and points along the incumbent's protected contour. For those radials on which line-of-sight conditions do not exist, either due to a terrain obstruction or the earth's curvature, the program will conclude that interference would not occur at that point. We note, following long-standing Commission practice, that all line-ofsight determinations will assume a receiver height of 30 feet and a standard 4/3 earth radius for determining the electrical horizon. Where line-of-sight conditions exist, the program would first determine the proposed station's EIRP in the pertinent direction, based on the EIRP and horizontal relative field strength tabulation given in the application. The received signal power level of the proposed station, the "undesired signal" (U), will then be calculated using the free space equation. The value of the receiver antenna gain in this calculation will depend on the angular relationship between the radial azimuth and the orientation of the receiving antenna. We will assume that the latter is pointed toward the station being received. The gain will also depend on whether the proposed station is cross polarized or co-polarized with respect to the protected station. The receiving antenna gain will be that of the reference receiving antenna found in Section 21.902(f)(3), Figure 1 of the Commission's rules. We here establish a fixed value for the "desired signal" level at the 35-mile boundary. Assuming a receiver antenna gain of 20 dB above an isotropic antenna, an EIRP of 2000 watts (33 dBw) and a frequency of 2638 MHz, the midpoint frequency between channels E1 and H3, the free space propagation equation gives a value of - 82.9 dBw. Our computer program will therefore use a received power level ("D") of -83 dBw as the value of the desired signal strength. Finally, the program will compute the value of the desired-to-undesired signal strength ratio ("D/U"), which is logarithmic units is expressed as D - U. This value will be tested against the minimum standard of 45 dB.

²⁴ Since Form 494 is a multi-purpose form that is used for other services, to the extent that we are proposing changes, we intend to create a different form to be used for MDS.

²⁵ The Office of Management and Budget has not yet approved the FCC Form 304 pursuant to the Paperwork Reduction Act. A public notice will be issued when the new form has been approved and is available for use.