

SECTION 10

BACKGROUND STUDY

10.1 All facilities and areas that used and stored radioactive commodities at Fort Ord will be evaluated to determine if any residual contamination is greater than that authorized by the NRC, State and DA. All radioactive contaminated areas will be remediated to meet NRC, State and DA standards. For NRC licensed radioactive materials, the NRC Regulatory Guide 1.86 will be complied with for fixed and removable contamination. The NRC guidelines for fixed radiological contamination are values in addition to the radiation exposure values that occur in nature. Therefore, the naturally occurring (background) radiation exposure levels will be determined before and during all instrumentation surveys.

10.2 Where only gamma emitting contaminants are present and soil is not affected, it may be adequate to perform only background exposure rate determinations.

10.3 Procedures.

10.3.1 Background measurements and/or samples should be collected from unaffected areas on the site or in its proximity.

10.3.2 It is necessary to collect a minimum of 6-10 samples or data points for each parameter of concern. Determine the average and 95% confidence levels for each parameter. If the 95% confidence level found on the average is not greater than 10% of the guideline value for the parameter, then variations in background are insignificant and no further samples are needed. If the 95% confidence level found on the average is greater than 10% of the guideline value for the parameter, then the number of samples required to be within 20% of the true background will have to be determined (NUREG/CR-5849, Section 8.6).

10.3.3 Once background levels are established, the levels can be compared and incorporated in the guideline values. If any areas show levels above the determined background levels, the survey officer should determine the reason for the increased levels. Example: Contamination, or a difference in construction material. If no contamination is found, then samples of the construction material should be taken to possibly explain the increase of background levels.

10.4 Instrumentation. The selected instruments should meet the requirements of instruments used in the final status survey.

10.4.1 At a minimum, five background radiation readings will be recorded and averaged over a 2 minute period. All instruments of similar type should be corrected to read the same baseline background.

10.4.2 Blank wipes should be submitted to the laboratory for use in determining background for the wipe survey.

10.5 Samples. Samples will be collected as described in Section 11 of this plan.