

## APPENDIX C

### POWER PLANT-MACHINE SHOP/MECHANICAL ROOM

#### FINAL STATUS SURVEYS

- Reference Drawings:

Figure C-1 Reactor Room Plan (original location)

Figure C-2 Machine Shop

Figure C-3 Power Plant-Machine Shop (grid map)

Figure C-4 Power Plant-Mechanical Room (grid map)

|                                     | Page       |
|-------------------------------------|------------|
| • Final Status Survey Plan          | C-1        |
| • Floor Surfaces Data               | C-2 -- C-6 |
| • Elevated Horizontal Surfaces Data | C-7        |

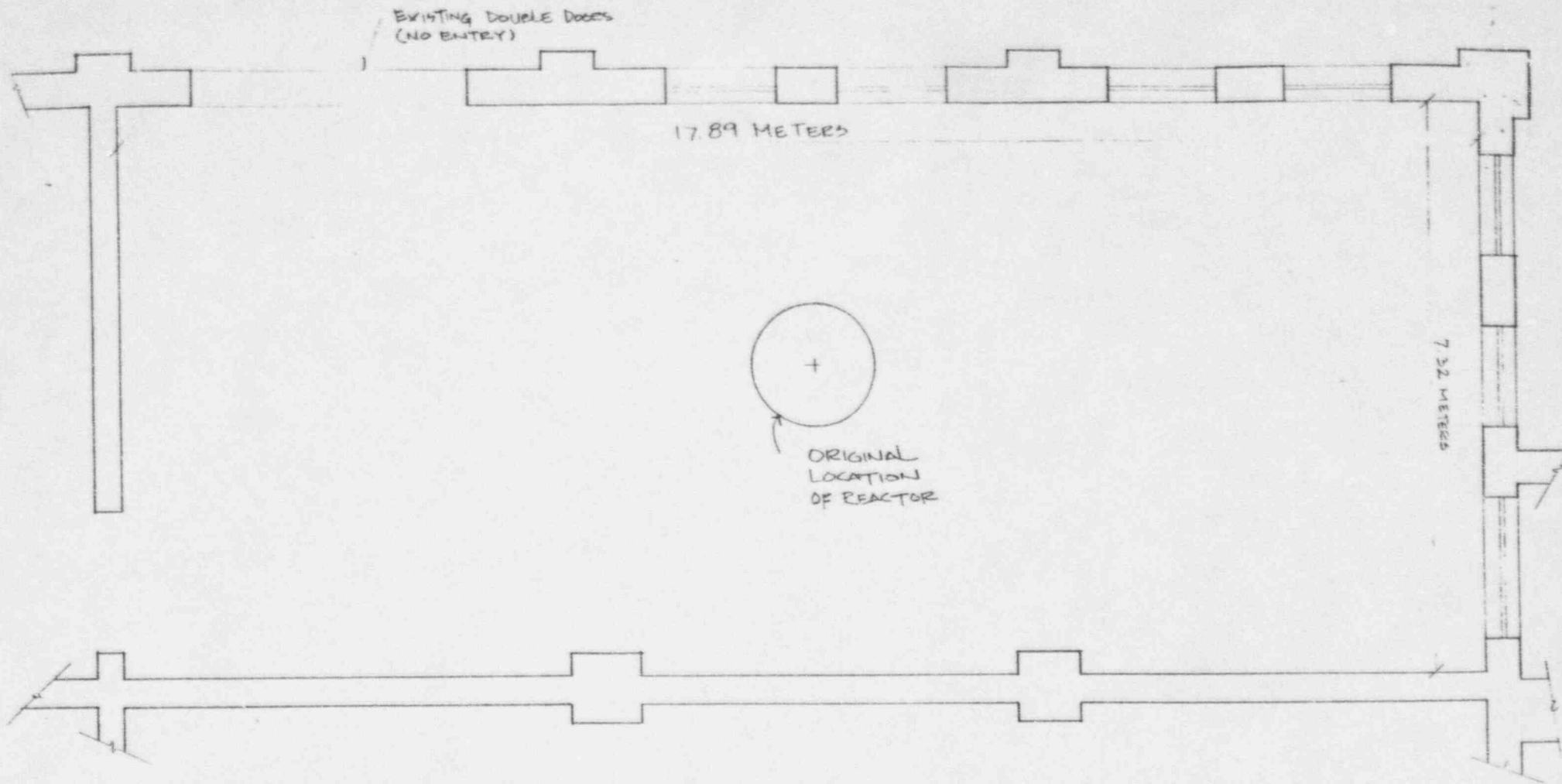
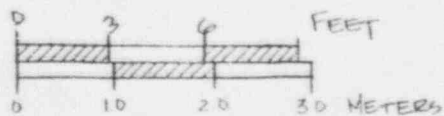


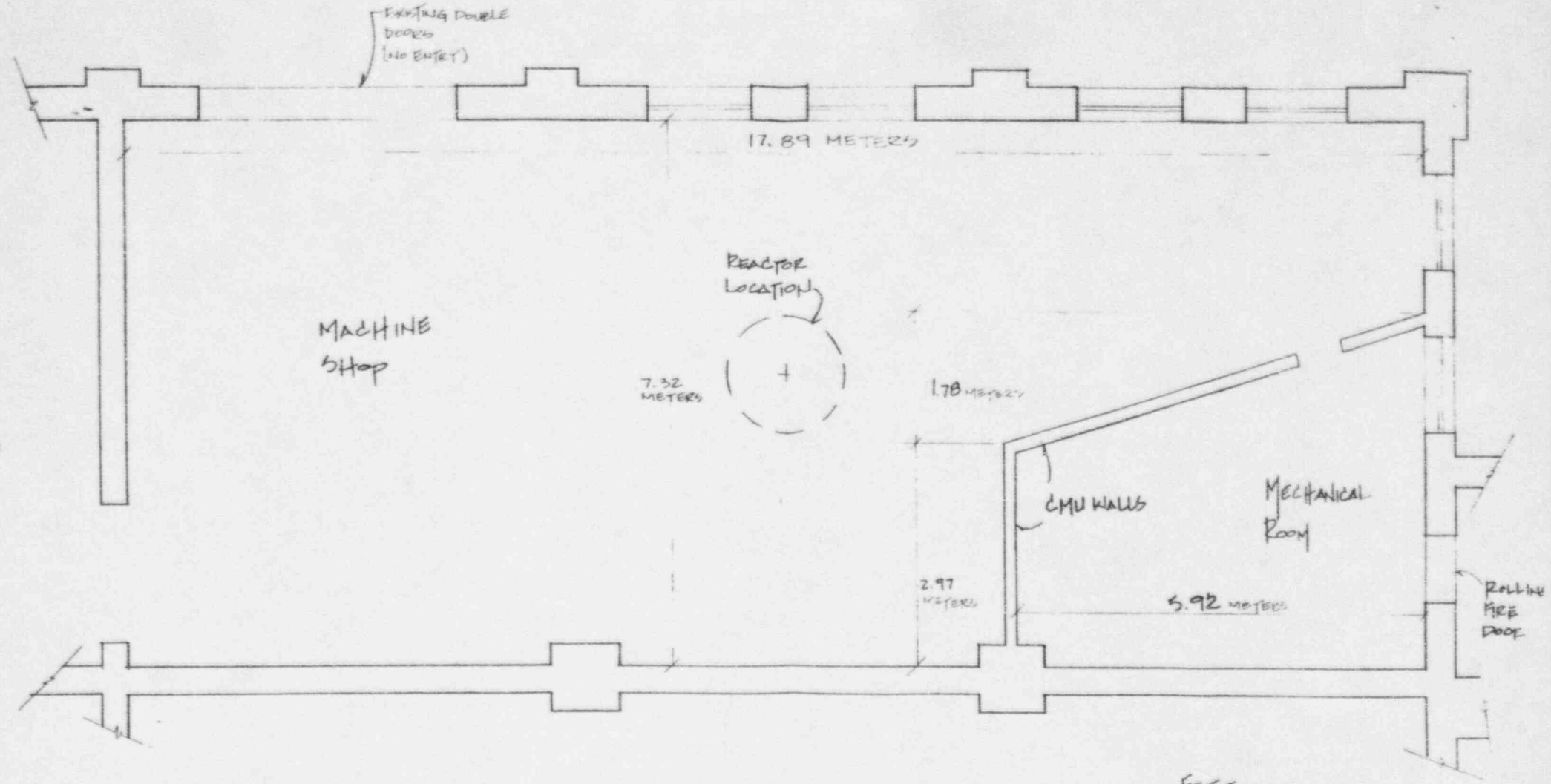
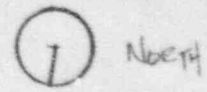
FIGURE C-1 — REACTOR ROOM PLAN (1957 - 1960)  
(ORIGINAL LOCATION)

SCALE 1:50 (METERS)



NORTH

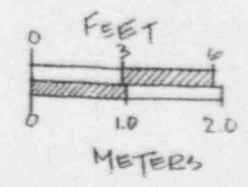


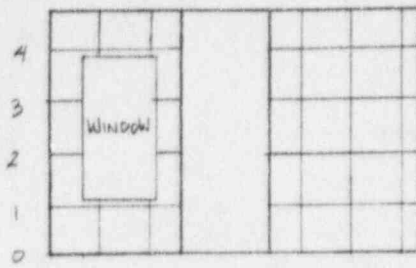


**MACHINE SHOP - (same as Figure c-1)**

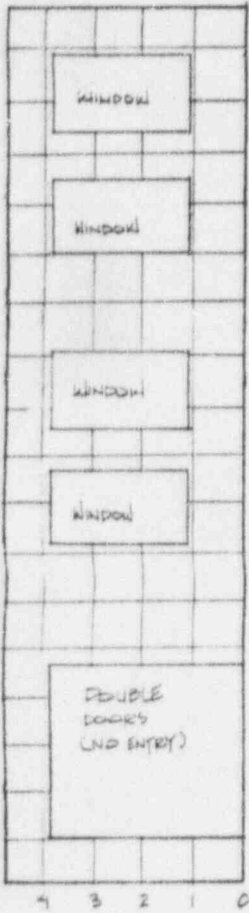
**FIGURE C-2**

(showing interior partitions which created the Power Plant Mechanical Rm.)

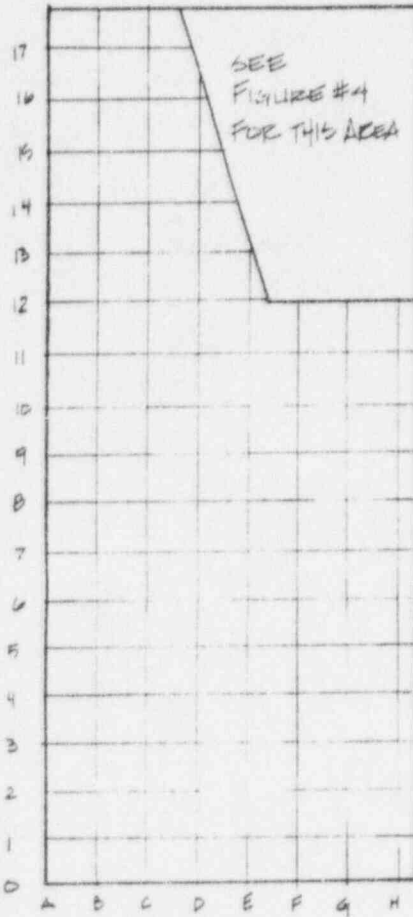




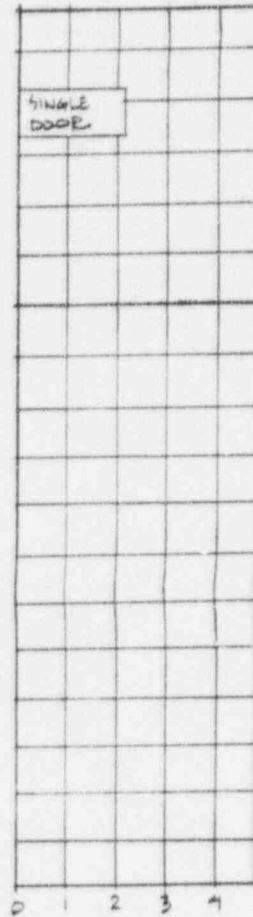
WEST WALL



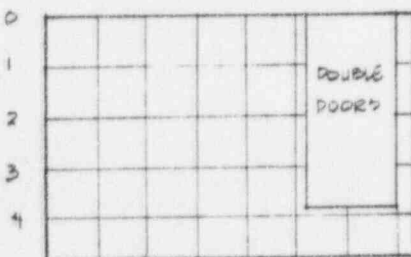
SOUTH WALL



FLOOR



NORTH WALL

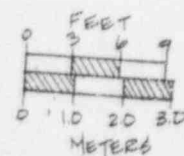


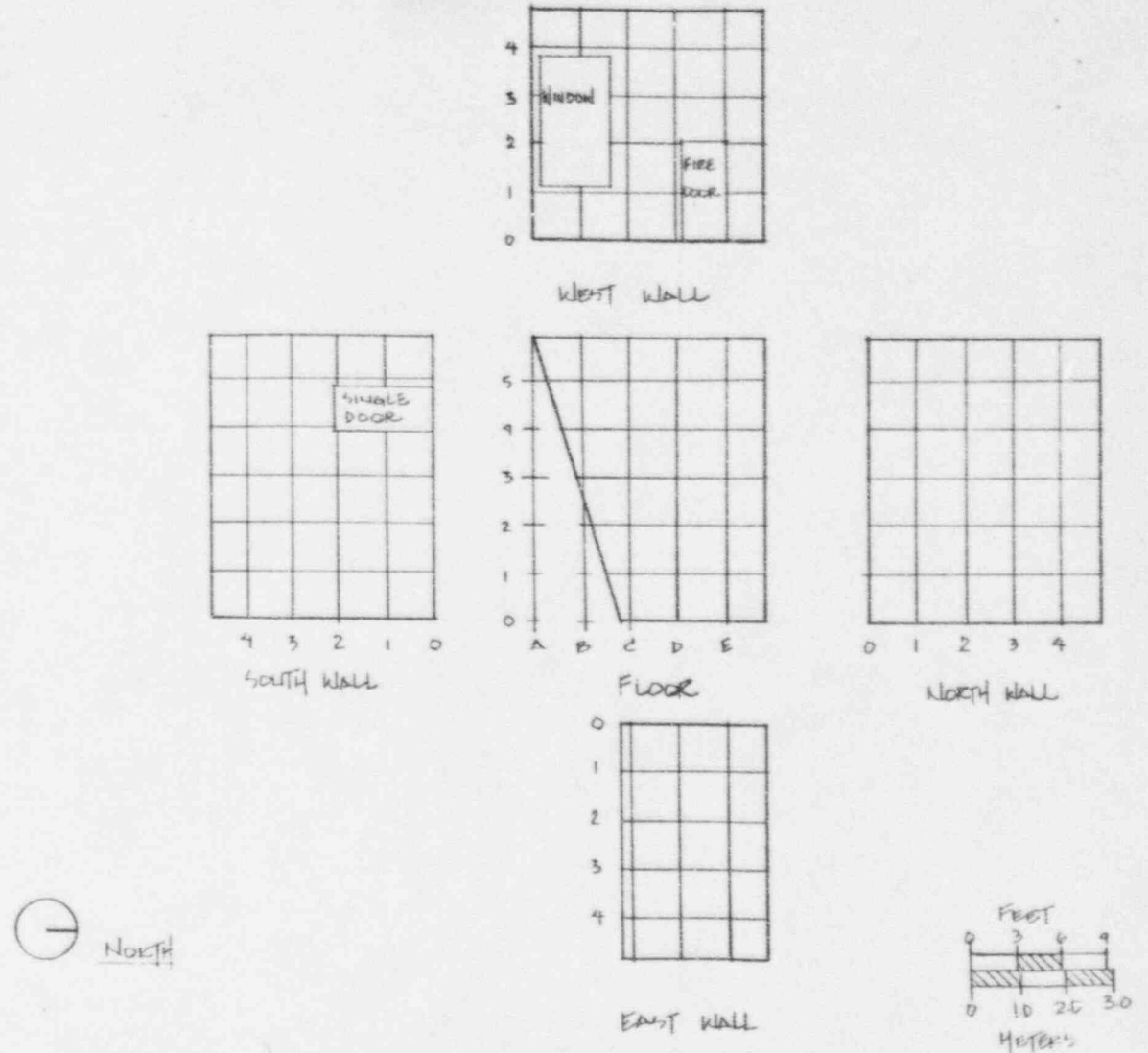
EAST WALL



**FIGURE C-3** POWER PLANT - MACHINE SHOP

one meter square grid





**FIGURE C-4** **POWER PLANT - MECHANICAL ROOM**

one meter square grid

FINAL STATUS SURVEY PLAN: POWER PLANT MACHINE SHOP

1.0 Discussion

The approximate 24 ft. X 58 ft. Rectangular room which originally housed the reactor was slightly modified in 1961 by the construction of an internal floor-to-ceiling cement block wall which partitioned off a triangular area used to house new boiler equipment. (See Figure C-1 and C-2.) The remainder of the room was converted into a machine shop and continues to function in the capacity.

The machine shop area is occupied and in continuous use with an assortment of general machine shop equipment in place (lathes, drill presses, milling machines, belt sanders, grinders, table saw). The Power Plant mechanical room contains equipment associated with the power plant.

2.0 Survey Design

The physical presence of equipment on the floor in the machine shop and power plant mechanical room, coupled with the continuing use and occupancy of these areas will necessitate a modification in survey design.

A survey built around the premise that . . . if there was a problem that released radioactive contamination into the room, what would still be there?...will be conducted as follows:

The room will be griddled, on a map only (Figures C-3 and C-4), into one meter square block. The "points" formed by the intersecting lines will be used as survey point locations as follows:

- Direct Radiation Surveys

At least thirty measurements of low level radiation fields will be taken at selected grid points at a distance of one meter from the floor surfaces. Residual radioactivity will be considered acceptable based on the criteria stated in the approved decommissioning plan.

- Indirect Contamination Surveys

At least thirty wipe measurements of 100 cm<sup>2</sup> (nominal) will be taken on elevated horizontal surfaces within the rooms. Locations will be referenced to the floor grid map, Figures C-3 and C-4. At least thirty wipe measurements will be taken on the lower surfaces (floors and walls up to two meters.)

- Direct Contamination Surveys

At least thirty one-minute readings will be taken for fixed beta/gamma contamination levels at selected floor grid points. Locations will be referenced to the floor grid maps.

Residual radioactivity for direct and indirect contamination will be considered acceptable based on criteria stated in the approved decommissioning plan.

Power Plant D&D Survey Data

| POWER PLANT DECOMMISSIONING SURVEY  |                |                                  |                                 |                            |             |                                  |                                 |                |  |
|---|----------------|----------------------------------|---------------------------------|----------------------------|-------------|----------------------------------|---------------------------------|----------------|--|
| Machine Shop Floor  |                |                                  |                                 |                            |             |                                  |                                 |                |  |
| Removable Contamination Survey  |                |                                  |                                 | Fixed Contamination Survey |             |                                  |                                 |                |  |
| Location  | Smear #        | Alpha<br>dpm/100 cm <sup>2</sup> | Beta<br>dpm/100 cm <sup>2</sup> | Alpha<br>cpm               | Beta<br>cpm | Alpha<br>dpm/100 cm <sup>2</sup> | Beta<br>dpm/100 cm <sup>2</sup> | Gamma<br>μR/hr |  |
| A-0   | 1              | 0                                | 0                               | 2                          | 41          | Bkgd                             | Bkgd                            | NT             |  |
| A-1   | 2              | 0                                | 1                               | 8                          | 45          | 43                               | Bkgd                            | NT             |  |
| A-2   | 3              | 0                                | 1                               | 2                          | 51          | Bkgd                             | 292                             | NT             |  |
| A-3   | Not Accessible |                                  |                                 | Not Accessible             |             |                                  |                                 | NT             |  |
| A-4   | Not Accessible |                                  |                                 | Not Accessible             |             |                                  |                                 | NT             |  |
| A-5   | Not Accessible |                                  |                                 | Not Accessible             |             |                                  |                                 | NT             |  |
| A-6   | Not Accessible |                                  |                                 | Not Accessible             |             |                                  |                                 | NT             |  |
| A-7   | 4              | 0                                | 0                               | 3                          | 40          | Bkgd                             | Bkgd                            | NT             |  |
| A-8   | 5              | 1                                | 0                               | 3                          | 41          | Bkgd                             | Bkgd                            | NT             |  |
| A-9   | 6              | 0                                | 0                               | 5                          | 41          | 17                               | Bkgd                            | NT             |  |
| A-10  | Not Accessible |                                  |                                 | Not Accessible             |             |                                  |                                 | NT             |  |
| A-11  | 7              | 0                                | 1                               | 5                          | 41          | 17                               | Bkgd                            | NT             |  |
| A-12  | 8              | 0                                | 0                               | 4                          | 50          | 9                                | 243                             | NT             |  |
| A-13  | 9              | 0                                | 0                               | 3                          | 34          | Bkgd                             | Bkgd                            | NT             |  |
| A-14  | 10             | 0                                | 0                               | 4                          | 41          | 9                                | Bkgd                            | NT             |  |
| A-15  | 11             | 0                                | 1                               | 3                          | 52          | Bkgd                             | 341                             | NT             |  |
| A-16  | 12             | 0                                | 0                               | 9                          | 41          | 51                               | Bkgd                            | NT             |  |
| A-17  | 13             | 0                                | 0                               | 4                          | 46          | 9                                | 49                              | NT             |  |
| B-0   | Not Accessible |                                  |                                 | Not Accessible             |             |                                  |                                 | NT             |  |
| B-1   | 14             | 0                                | 0                               | 5                          | 60          | 17                               | 730                             | 10             |  |
| B-2   | 15             | 1                                | 1                               | 0                          | 50          | Bkgd                             | 243                             | 10             |  |
| B-3   | 16             | 0                                | 0                               | 3                          | 49          | Bkgd                             | 195                             | 10             |  |
| B-4   | 17             | 0                                | 0                               | 2                          | 37          | Bkgd                             | Bkgd                            | 8              |  |
| B-5   | 18             | 0                                | 0                               | 4                          | 36          | 9                                | Bkgd                            | 8              |  |
| B-6   | 19             | 0                                | 0                               | 3                          | 43          | Bkgd                             | Bkgd                            | 8              |  |
| B-7   | 20             | 0                                | 0                               | 7                          | 44          | 34                               | Bkgd                            | 9              |  |
| B-8   | 21             | 4                                | 0                               | 2                          | 40          | Bkgd                             | Bkgd                            | 7              |  |
| B-9   | 22             | 0                                | 0                               | 0                          | 39          | Bkgd                             | Bkgd                            | 8              |  |
| B-10  | Not Accessible |                                  |                                 | Not Accessible             |             |                                  |                                 | 9              |  |
| B-11  | 23             | 4                                | 0                               | 9                          | 40          | 51                               | Bkgd                            | 10             |  |
| B-12  | Not Accessible |                                  |                                 | Not Accessible             |             |                                  |                                 | 9              |  |
| B-13  | 24             | 0                                | 0                               | 0                          | 41          | Bkgd                             | Bkgd                            | 7              |  |
| B-14  | 25             | 0                                | 1                               | 2                          | 47          | Bkgd                             | 97                              | 8              |  |
| B-15  | 26             | 0                                | 2                               | 3                          | 34          | Bkgd                             | Bkgd                            | 8              |  |
| B-16  | 27             | 0                                | 0                               | 0                          | 45          | Bkgd                             | Bkgd                            | 7              |  |
| B-17  | 28             | 0                                | 0                               | 3                          | 46          | Bkgd                             | 49                              | NT             |  |
| Meter Model   | Serial #       | Probe Type                       | Radiation                       | Calib Date                 | Bkgnd       | Efficiency                       | Probe Size                      |                |  |
| L-2221  | 89645          | scintillator                     | α                               | 08/31/95                   | 3 cpm       | 23.50%                           | 50 cm <sup>2</sup>              |                |  |
| L-2221  | 89628          | gm pancake                       | β                               | 08/30/95                   | 45 cpm      | 13.25%                           | 15.5 cm <sup>2</sup>            |                |  |
| L-19  | 75509          | Nal                              | γ                               | 08/17/95                   | 7 μR/hr     | N/A                              | N/A                             |                |  |
| T-1500B   | T-3            | gas prop.                        | α & β                           | 05/24/95                   | 5 & 1.3 cpm | 34 & 35 %                        | N/A                             |                |  |
| Bkgd = Activity indistinguishable from Background   |                |                                  |                                 |                            |             |                                  |                                 |                |  |
| NT = Not Taken. Gamma survey location was not accessible, or was less than one meter from a wall. |                |                                  |                                 |                            |             |                                  |                                 |                |  |

Power Plant D&D Survey Data

| POWER PLANT DECOMMISSIONING SURVEY  |                                |                                  |                                 |                            |             |                                  |                                 |                      |    |
|---|--------------------------------|----------------------------------|---------------------------------|----------------------------|-------------|----------------------------------|---------------------------------|----------------------|----|
| Machine Shop Floor (Continued)  |                                |                                  |                                 |                            |             |                                  |                                 |                      |    |
| Location  | Removable Contamination Survey |                                  |                                 | Fixed Contamination Survey |             |                                  |                                 |                      |    |
|   | Smear #                        | Alpha<br>dpm/100 cm <sup>2</sup> | Beta<br>dpm/100 cm <sup>2</sup> | Alpha<br>cpm               | Beta<br>cpm | Alpha<br>dpm/100 cm <sup>2</sup> | Beta<br>dpm/100 cm <sup>2</sup> | Gamma<br>μR/hr       |    |
| C-0   | Not Accessible                 |                                  |                                 | Not Accessible             |             |                                  |                                 |                      | NT |
| C-1   | 29                             | 0                                | 1                               | 1                          | 39          | Bkgd                             | Bkgd                            | 10                   |    |
| C-2   | 30                             | 0                                | 0                               | 2                          | 58          | Bkgd                             | 633                             | 10                   |    |
| C-3   | 31                             | 0                                | 0                               | 2                          | 47          | Bkgd                             | 97                              | 11                   |    |
| C-4   | 32                             | 0                                | 1                               | 1                          | 51          | Bkgd                             | 292                             | 10                   |    |
| C-5   | 33                             | 0                                | 0                               | 1                          | 62          | Bkgd                             | 828                             | 8                    |    |
| C-6   | 34                             | 0                                | 0                               | 2                          | 43          | Bkgd                             | Bkgd                            | 10                   |    |
| C-7   | 35                             | 1                                | 0                               | 2                          | 46          | Bkgd                             | 49                              | 8                    |    |
| C-8   | 36                             | 4                                | 0                               | 1                          | 50          | Bkgd                             | 243                             | 9                    |    |
| C-9   | 37                             | 0                                | 0                               | 3                          | 41          | Bkgd                             | Bkgd                            | 9                    |    |
| C-10  | 38                             | 1                                | 1                               | 4                          | 41          | 9                                | Bkgd                            | 9                    |    |
| C-11  | 39                             | 0                                | 0                               | 2                          | 49          | Bkgd                             | 195                             | 9                    |    |
| C-12  | 40                             | 0                                | 0                               | 2                          | 48          | Bkgd                             | 146                             | 8                    |    |
| C-13  | 41                             | 0                                | 0                               | 5                          | 28          | 17                               | Bkgd                            | 9                    |    |
| C-14  | 42                             | 0                                | 0                               | 6                          | 32          | 26                               | Bkgd                            | 9                    |    |
| C-15  | 43                             | 0                                | 0                               | 4                          | 56          | 9                                | 535                             | 8                    |    |
| C-16  | 44                             | 1                                | 0                               | 0                          | 45          | Bkgd                             | Bkgd                            | 9                    |    |
| C-17  | Not Accessible                 |                                  |                                 | Not Accessible             |             |                                  |                                 |                      | NT |
| D-0   | Not Accessible                 |                                  |                                 | Not Accessible             |             |                                  |                                 |                      | NT |
| D-1   | 45                             | 0                                | 0                               | 5                          | 35          | 17                               | Bkgd                            | 9                    |    |
| D-2   | 46                             | 0                                | 0                               | 4                          | 53          | 9                                | 389                             | 9                    |    |
| D-3   | 47                             | 0                                | 0                               | 2                          | 30          | Bkgd                             | Bkgd                            | 10                   |    |
| D-4   | Not Accessible                 |                                  |                                 | Not Accessible             |             |                                  |                                 |                      | NT |
| D-5   | Not Accessible                 |                                  |                                 | Not Accessible             |             |                                  |                                 |                      | NT |
| D-6   | Not Accessible                 |                                  |                                 | Not Accessible             |             |                                  |                                 |                      | 9  |
| D-7   | 48                             | 1                                | 0                               | 4                          | 31          | 9                                | Bkgd                            | 8                    |    |
| D-8   | 49                             | 0                                | 0                               | 3                          | 51          | Bkgd                             | 292                             | 8                    |    |
| D-9   | 50                             | 0                                | 0                               | 3                          | 48          | Bkgd                             | 146                             | 8                    |    |
| D-10  | 51                             | 0                                | 0                               | 3                          | 34          | Bkgd                             | Bkgd                            | 8                    |    |
| D-11  | 52                             | 0                                | 0                               | 3                          | 43          | Bkgd                             | Bkgd                            | 9                    |    |
| D-12  | 53                             | 1                                | 0                               | 4                          | 40          | 9                                | Bkgd                            | 9                    |    |
| D-13  | 54                             | 2                                | 1                               | 2                          | 39          | Bkgd                             | Bkgd                            | 7                    |    |
| D-14  | Not Accessible                 |                                  |                                 | Not Accessible             |             |                                  |                                 |                      | NT |
| D-15  | Not Accessible                 |                                  |                                 | Not Accessible             |             |                                  |                                 |                      | NT |
| D-16  | 55                             | 0                                | 1                               | 7                          | 42          | 34                               | Bkgd                            | NT                   |    |
|   | Meter Model                    | Serial #                         | Probe Type                      | Radiation                  | Calib. Date | Bkgnd                            | Efficiency                      | Probe Size           |    |
|   | L-2221                         | 89645                            | scintillator                    | α                          | 08/31/95    | 3 cpm                            | 23.50%                          | 50 cm <sup>2</sup>   |    |
|   | L-2221                         | 89628                            | gm pancake                      | β                          | 08/30/95    | 45 cpm                           | 13.25%                          | 15.5 cm <sup>2</sup> |    |
|   | L-19                           | 75509                            | Nai                             | γ                          | 08/17/95    | 7 μR/hr                          | N/A                             | N/A                  |    |
|   | T-1500B                        | T-3                              | gas prop.                       | α & β                      | 05/24/95    | .5 & 1.3 cpm                     | 34 & 35 %                       | N/A                  |    |
| Bkgd = Activity indistinguishable from Background   |                                |                                  |                                 |                            |             |                                  |                                 |                      |    |
| NT = Not Taken. Gamma survey location was not accessible, or was less than one meter from a wall. |                                |                                  |                                 |                            |             |                                  |                                 |                      |    |



Power Plant D&D Survey Data

| POWER PLANT DECOMMISSIONING SURVEY |                                |                                  |                                 |                            |             |                                  |                                 |                      |    |
|------------------------------------|--------------------------------|----------------------------------|---------------------------------|----------------------------|-------------|----------------------------------|---------------------------------|----------------------|----|
| Machine Shop Floor (Continued)     |                                |                                  |                                 |                            |             |                                  |                                 |                      |    |
| Location                           | Removable Contamination Survey |                                  |                                 | Fixed Contamination Survey |             |                                  |                                 |                      |    |
|                                    | Smear #                        | Alpha<br>dpm/100 cm <sup>2</sup> | Beta<br>dpm/100 cm <sup>2</sup> | Alpha<br>cpm               | Beta<br>cpm | Alpha<br>dpm/100 cm <sup>2</sup> | Beta<br>dpm/100 cm <sup>2</sup> | Gamma<br>μR/hr       |    |
| E-0                                | Not Accessible                 |                                  |                                 | Not Accessible             |             |                                  |                                 |                      | NT |
| E-1                                | 56                             | 0                                | 0                               | 1                          | 37          | Bkgd                             | Bkgd                            | 8                    |    |
| E-2                                | 57                             | 0                                | 0                               | 2                          | 44          | Bkgd                             | Bkgd                            | 11                   |    |
| E-3                                | 58                             | 0                                | 0                               | 0                          | 51          | Bkgd                             | 292                             | 9                    |    |
| E-4                                | 59                             | 0                                | 0                               | 4                          | 45          | 9                                | Bkgd                            | 8                    |    |
| E-5                                | 60                             | 0                                | 0                               | 2                          | 52          | Bkgd                             | 341                             | 9                    |    |
| E-6                                | 61                             | 2                                | 0                               | 1                          | 32          | Bkgd                             | Bkgd                            | 8                    |    |
| E-7                                | 62                             | 0                                | 0                               | 1                          | 44          | Bkgd                             | Bkgd                            | 9                    |    |
| E-8                                | 63                             | 0                                | 0                               | 3                          | 69          | Bkgd                             | 1166                            | 8                    |    |
| E-9                                | 64                             | 0                                | 0                               | 1                          | 50          | Bkgd                             | 243                             | 8                    |    |
| E-10                               | 65                             | 6                                | 3                               | 5                          | 24          | 17                               | Bkgd                            | 8                    |    |
| E-11                               | 66                             | 0                                | 0                               | 2                          | 46          | Bkgd                             | 49                              | 9                    |    |
| E-12                               | 67                             | 0                                | 0                               | 3                          | 36          | Bkgd                             | Bkgd                            | NT                   |    |
| E-13                               | Not Accessible                 |                                  |                                 | Not Accessible             |             |                                  |                                 |                      |    |
| F-0                                | Not Accessible                 |                                  |                                 | Not Accessible             |             |                                  |                                 |                      | NT |
| F-1                                | 68                             | 1                                | 1                               | 1                          | 36          | Bkgd                             | Bkgd                            | 9                    |    |
| F-2                                | 69                             | 1                                | 0                               | 1                          | 63          | Bkgd                             | 876                             | 10                   |    |
| F-3                                | 70                             | 0                                | 0                               | 3                          | 36          | Bkgd                             | Bkgd                            | 9                    |    |
| F-4                                | 71                             | 0                                | 0                               | 4                          | 34          | 9                                | Bkgd                            | 9                    |    |
| F-5                                | 72                             | 0                                | 0                               | 1                          | 46          | Bkgd                             | 49                              | 9                    |    |
| F-6                                | 73                             | 0                                | 0                               | 3                          | 45          | Bkgd                             | Bkgd                            | 9                    |    |
| F-7                                | 74                             | 0                                | 1                               | 3                          | 46          | Bkgd                             | 49                              | 10                   |    |
| F-8                                | 75                             | 0                                | 1                               | 4                          | 32          | 9                                | Bkgd                            | 7                    |    |
| F-9                                | 76                             | 1                                | 0                               | 2                          | 29          | Bkgd                             | Bkgd                            | 8                    |    |
| F-10                               | 77                             | 0                                | 0                               | 4                          | 41          | 9                                | Bkgd                            | 8                    |    |
| F-11                               | 78                             | 0                                | 0                               | 4                          | 47          | 9                                | 97                              | 7                    |    |
| G-0                                | 79                             | 0                                | 0                               | 2                          | 36          | Bkgd                             | Bkgd                            | NT                   |    |
| G-1                                | 80                             | 0                                | 0                               | 0                          | 36          | Bkgd                             | Bkgd                            | 10                   |    |
| G-2                                | 81                             | 0                                | 0                               | 4                          | 44          | 9                                | Bkgd                            | 10                   |    |
| G-3                                | 82                             | 0                                | 0                               | 6                          | 59          | 26                               | 682                             | 10                   |    |
| G-4                                | 83                             | 0                                | 1                               | 1                          | 47          | Bkgd                             | 97                              | 9                    |    |
| G-5                                | 84                             | 0                                | 0                               | 2                          | 36          | Bkgd                             | Bkgd                            | 8                    |    |
| G-6                                | 85                             | 1                                | 0                               | 2                          | 35          | Bkgd                             | Bkgd                            | 7                    |    |
| G-7                                | 86                             | 0                                | 0                               | 3                          | 31          | Bkgd                             | Bkgd                            | 8                    |    |
| G-8                                | Not Accessible                 |                                  |                                 | Not Accessible             |             |                                  |                                 |                      | 9  |
| G-9                                | Not Accessible                 |                                  |                                 | Not Accessible             |             |                                  |                                 |                      | NT |
| G-10                               | 87                             | 0                                | 0                               | 2                          | 33          | Bkgd                             | Bkgd                            | 10                   |    |
| G-11                               | 88                             | 0                                | 0                               | 4                          | 59          | 9                                | 682                             | 10                   |    |
|                                    | Meter Model                    | Serial #                         | Probe Type                      | Radiation                  | Calib. Date | Bkgnd                            | Efficiency                      | Probe Size           |    |
|                                    | L-2221                         | 89645                            | scintillator                    | α                          | 08/31/95    | 3 cpm                            | 23.50%                          | 50 cm <sup>2</sup>   |    |
|                                    | L-2221                         | 89628                            | gm pancake                      | β                          | 08/30/95    | 45 cpm                           | 13.25%                          | 15.5 cm <sup>2</sup> |    |
|                                    | L-19                           | 75509                            | Nal                             | γ                          | 08/17/95    | 7 μR/hr                          | N/A                             | N/A                  |    |
|                                    | T-1500B                        | T-3                              | gas prop.                       | α & β                      | 05/24/95    | .5 & 1.3 cpm                     | 34 & 35 %                       | N/A                  |    |

Bkgd = Activity indistinguishable from Background

NT = Not Taken. Gamma survey location was not accessible, or was less than one meter from a wall.

Power Plant D&D Survey Data

| POWER PLANT DECOMMISSIONING SURVEY  |             |                                  |                                 |                            |             |                                  |                                 |                      |  |
|---|-------------|----------------------------------|---------------------------------|----------------------------|-------------|----------------------------------|---------------------------------|----------------------|--|
| Machine Shop Floor (Continued)  |             |                                  |                                 |                            |             |                                  |                                 |                      |  |
| Removable Contamination Survey  |             |                                  |                                 | Fixed Contamination Survey |             |                                  |                                 |                      |  |
| Location  | Smear #     | Alpha<br>dpm/100 cm <sup>2</sup> | Beta<br>dpm/100 cm <sup>2</sup> | Alpha<br>cpm               | Beta<br>cpm | Alpha<br>dpm/100 cm <sup>2</sup> | Beta<br>dpm/100 cm <sup>2</sup> | Gamma<br>μR/hr       |  |
| H-0   |             | Not Accessible                   |                                 | Not Accessible             |             |                                  |                                 | NT                   |  |
| H-1   |             | Not Accessible                   |                                 | Not Accessible             |             |                                  |                                 | NT                   |  |
| H-2   | 89          | 0                                | 0                               | 4                          | 51          | 9                                | 292                             | NT                   |  |
| H-3   |             | Not Accessible                   |                                 | Not Accessible             |             |                                  |                                 | NT                   |  |
| H-4   |             | Not Accessible                   |                                 | Not Accessible             |             |                                  |                                 | NT                   |  |
| H-5   | 90          | 1                                | 0                               | 2                          | 41          | Bkgd                             | Bkgd                            | NT                   |  |
| H-6   |             | Not Accessible                   |                                 | Not Accessible             |             |                                  |                                 | NT                   |  |
| H-7   | 91          | 0                                | 0                               | 2                          | 44          | Bkgd                             | Bkgd                            | NT                   |  |
| H-8   | 92          | 1                                | 1                               | 3                          | 33          | Bkgd                             | Bkgd                            | NT                   |  |
| H-9   |             | Not Accessible                   |                                 | Not Accessible             |             |                                  |                                 | NT                   |  |
| H-10  | 93          | 0                                | 0                               | 1                          | 38          | Bkgd                             | Bkgd                            | NT                   |  |
| H-11  | 94          | 0                                | 2                               | 3                          | 35          | Bkgd                             | Bkgd                            | NT                   |  |
|   | Meter Model | Serial #                         | Probe Type                      | Radiation                  | Calib. Date | Bkgnd                            | Efficiency                      | Probe Size           |  |
|   | L-2221      | 89645                            | scintillator                    | α                          | 08/31/95    | 3 cpm                            | 23.50%                          | 50 cm <sup>2</sup>   |  |
|   | L-2221      | 89628                            | grn pancake                     | β                          | 08/30/95    | 45 cpm                           | 13.25%                          | 15.5 cm <sup>2</sup> |  |
|   | L-19        | 75509                            | Nal                             | γ                          | 08/17/95    | 7 μR/hr                          | N/A                             | N/A                  |  |
|   | T-1500B     | T-3                              | gas prop.                       | α & β                      | 05/24/95    | .5 & 1.3 cpm                     | 34 & 35 %                       | N/A                  |  |
| Bkgd = Activity indistinguishable from Background   |             |                                  |                                 |                            |             |                                  |                                 |                      |  |
| NT = Not Taken. Gamma survey location was not accessible, or was less than one meter from a wall. |             |                                  |                                 |                            |             |                                  |                                 |                      |  |

Power Plant D&D Survey Data

| POWER PLANT DECOMMISSIONING SURVEY  |          |                                  |                                 |                            |              |                                  |                                 |                |
|---|----------|----------------------------------|---------------------------------|----------------------------|--------------|----------------------------------|---------------------------------|----------------|
| Mechanical Room Floor   |          |                                  |                                 |                            |              |                                  |                                 |                |
| Removable Contamination Survey  |          |                                  |                                 | Fixed Contamination Survey |              |                                  |                                 |                |
| Location  | Smear #  | Alpha<br>dpm/100 cm <sup>2</sup> | Beta<br>dpm/100 cm <sup>2</sup> | Alpha<br>cpm               | Beta<br>cpm  | Alpha<br>dpm/100 cm <sup>2</sup> | Beta<br>dpm/100 cm <sup>2</sup> | Gamma<br>μR/hr |
| B-3   | A-1      | 0                                | 1                               | 3                          | 39           | Bkgd                             | Bkgd                            | NT             |
| B-4   | 1        | 0                                | 0                               | 3                          | 38           | Bkgd                             | Bkgd                            | 11             |
| B-5   | 2        | 1                                | 2                               | 2                          | 63           | Bkgd                             | 876                             | NT             |
| C-0   | A-2      | 0                                | 0                               | 1                          | 44           | Bkgd                             | Bkgd                            | NT             |
| C-1   | 3        | 0                                | 0                               | 2                          | 44           | Bkgd                             | Bkgd                            | 11             |
| C-2   | 4        | 0                                | 0                               | 4                          | 37           | 9                                | Bkgd                            | 10             |
| C-3   | 5        | 0                                | 0                               | 3                          | 45           | Bkgd                             | Bkgd                            | 11             |
| C-4   | 6        | 0                                | 1                               | 2                          | 43           | Bkgd                             | Bkgd                            | 10             |
| C-5   | 7        | 1                                | 2                               | 3                          | 49           | Bkgd                             | 195                             | 11             |
| D-0   | A-3      | 0                                | 0                               | 0                          | 36           | Bkgd                             | Bkgd                            | NT             |
| D-1   | 8        | 0                                | 0                               | 3                          | 55           | Bkgd                             | 487                             | 10             |
| D-2   | 9        | 1                                | 1                               | 4                          | 39           | 9                                | Bkgd                            | 11             |
| D-3   | A-4      | 0                                | 0                               | 4                          | 42           | 9                                | Bkgd                            | NT             |
| D-4   | 10       | 0                                | 1                               | 4                          | 36           | 9                                | Bkgd                            | 11             |
| D-5   | 11       | 0                                | 0                               | 2                          | 33           | Bkgd                             | Bkgd                            | 11             |
| E-0   | A-5      | 0                                | 0                               | 0                          | 44           | Bkgd                             | Bkgd                            | NT             |
| E-1   | 12       | 0                                | 1                               | 7                          | 51           | 34                               | 292                             | NT             |
| E-2   | 13       | 0                                | 0                               | 2                          | 42           | Bkgd                             | Bkgd                            | NT             |
| E-3   | 14       | 0                                | 0                               | 4                          | 32           | 9                                | Bkgd                            | NT             |
| E-4   | 15       | 2                                | 0                               | 3                          | 28           | Bkgd                             | Bkgd                            | NT             |
| E-5   | 16       | 0                                | 0                               | 0                          | 41           | Bkgd                             | Bkgd                            | NT             |
| Meter Model   | Serial # | Probe Type                       | Radiation                       | Calib. Date                | Bkgnd        | Efficiency                       | Probe Size                      |                |
| L-2221  | 89645    | scintillator                     | α                               | 08/31/95                   | 3 cpm        | 23.50%                           | 50 cm <sup>2</sup>              |                |
| L-2221  | 89628    | gm pancake                       | β                               | 08/30/95                   | 45 cpm       | 13.25%                           | 15.5 cm <sup>2</sup>            |                |
| L-19  | 75509    | Nal                              | γ                               | 08/17/95                   | 7 μR/hr      | N/A                              | N/A                             |                |
| T-1500B   | T-3      | gas prop.                        | α & β                           | 05/24/95                   | .5 & 1.3 cpm | 34 & 35 %                        | N/A                             |                |
| Bkgd = Activity Indistinguishable from Background   |          |                                  |                                 |                            |              |                                  |                                 |                |
| NT = Not Taken. Gamma survey location was not accessible, or was less than one meter from a wall. |          |                                  |                                 |                            |              |                                  |                                 |                |

Power Plant D&D Survey Data

| POWER PLANT DECOMMISSIONING SURVEY  |          |                             |                         |                         |             |            |                      |
|---|----------|-----------------------------|-------------------------|-------------------------|-------------|------------|----------------------|
| Machine Shop, Elevated Horizontal Surfaces  |          |                             |                         |                         |             |            |                      |
| Removable Contamination Survey  |          |                             |                         |                         |             |            |                      |
|   |          | Location                    | Alpha                   | Beta                    |             |            |                      |
|   | Smear #  | Description                 | dpm/100 cm <sup>2</sup> | dpm/100 cm <sup>2</sup> |             |            |                      |
|   | 1        | Top of pipe at point A-1    | 0                       | 0                       |             |            |                      |
|   | 2        | Window sill at point A-1    | 1                       | 1                       |             |            |                      |
|   | 3        | Top of pipe at point A-4    | 0                       | 0                       |             |            |                      |
|   | 4        | Window sill at point A-4    | 0                       | 0                       |             |            |                      |
|   | 5        | Top of pipe at point A-6    | 0                       | 0                       |             |            |                      |
|   | 6        | Light Fixture at point C-1  | 0                       | 0                       |             |            |                      |
|   | 7        | Light Fixture at point C-2  | 1                       | 1                       |             |            |                      |
|   | 8        | Light Fixture at point C-3  | 0                       | 0                       |             |            |                      |
|   | 9        | Light Fixture at point C-5  | 2                       | 1                       |             |            |                      |
|   | 10       | Light Fixture at point C-7  | 0                       | 0                       |             |            |                      |
|   | 11       | Light Fixture at point C-9  | 0                       | 0                       |             |            |                      |
|   | 12       | Light Fixture at point C-11 | 0                       | 0                       |             |            |                      |
|   | 13       | Top of pipe at point C-12   | 0                       | 1                       |             |            |                      |
|   | 14       | Top of pipe at point C-13   | 0                       | 0                       |             |            |                      |
|   | 15       | Window sill at point C-13   | 0                       | 1                       |             |            |                      |
|   | 16       | Top of pipe at point C-16   | 0                       | 1                       |             |            |                      |
|   | 17       | Window sill at point C-16   | 0                       | 0                       |             |            |                      |
|   | 18       | Top of pipe at point D-16   | 0                       | 0                       |             |            |                      |
|   | 19       | Light Fixture at point F-9  | 0                       | 0                       |             |            |                      |
|   | 20       | Light Fixture at point F-7  | 0                       | 0                       |             |            |                      |
|   | 21       | Light Fixture at point F-5  | 2                       | 2                       |             |            |                      |
|   | 22       | Light Fixture at point F-2  | 0                       | 0                       |             |            |                      |
|   | 23       | Door sill at point G-0      | 4                       | 1                       |             |            |                      |
|   | 24       | Electrical conduit at H-2   | 0                       | 0                       |             |            |                      |
|   | 25       | Electrical conduit at H-4   | 0                       | 0                       |             |            |                      |
|   | 26       | Electrical conduit at H-6   | 0                       | 2                       |             |            |                      |
|   | 27       | Junction Box at point H-7   | 0                       | 1                       |             |            |                      |
|   | 28       | Electrical conduit at H-8   | 0                       | 0                       |             |            |                      |
|   | 29       | Electrical conduit at H-10  | 0                       | 0                       |             |            |                      |
|   | 30       | Electrical conduit at H-12  | 1                       | 0                       |             |            |                      |
|   | 31       | Electrical conduit at H-5   | 0                       | 2                       |             |            |                      |
|   | 32       | Electrical conduit at H-11  | 0                       | 0                       |             |            |                      |
|   | 33       | Window sill at point A-15   | 0                       | 0                       |             |            |                      |
|   | 34       | Window sill at point A-10   | 0                       | 0                       |             |            |                      |
|   | 35       | Vertical pipe joint at A-1  | 2                       | 1                       |             |            |                      |
| Meter Model   | Serial # | Probe Type                  | Radiation               | Calib. Date             | Bkgnd       | Efficiency | Probe Size           |
| L-2221  | 89645    | scintillator                | α                       | 08/31/95                | 3 cpm       | 23.50%     | 50 cm <sup>2</sup>   |
| L-2221  | 89628    | gm pancake                  | β                       | 08/30/95                | 45 cpm      | 13.25%     | 15.5 cm <sup>2</sup> |
| L-19  | 75509    | Nal                         | γ                       | 08/17/95                | 7 μR/hr     | N/A        | N/A                  |
| T-1500B   | T-3      | gas prop.                   | α & β                   | 05/24/95                | 5 & 1.3 cpm | 34 & 35 %  | N/A                  |
| Bkgd = Activity indistinguishable from Background   |          |                             |                         |                         |             |            |                      |
| NT = Not Taken. Gamma survey location was not accessible, or was less than one meter from a wall. |          |                             |                         |                         |             |            |                      |

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- Figure C-2    Machine Shop

## List of Grid Maps

Grid Map A-1 Reactor Room

Grid Map B-1 Reactor Pit

Grid Map C-3 Power Plant- Machine Shop

Grid Map C-4 Power Plant- Mechanical Room

#### 5.4.2 Establishment of Decommissioning Area External Radiation Exposures

External radiation surveys were conducted in survey units identified in this report as the Reactor Room and Reactor Pit (Appendix A), and (Appendix B), respectively.

As described in 5.2 a reading was taken centered over each grid block at one meter above the surface using a micro-R scaled ratemeter. For those floor survey blocks adjacent to walks, the measurement was taken at the appropriate grid point which maintained a 1 meter distance from the wall.

#### 5.5 Instrumentation Used

##### Direct Radiation Measurements

Ludlum Instrumentation Corporation, Santa Fe, New Mexico

- Model 3 Survey Meter
- Model 12 Survey Meter
- Model 19 Micro R Survey Meter
- Model 43-2 Alpha Scintillation Detector
- Model 43-65 Alpha Scintillation Detector
- Model 44-9 "Pancake" G-M Detector
- Model 2221 Single Channel Analyzer, Scaler/Ratemeter

##### Indirect Measurements

Tennelec, Incorporated, Oak Ridge, Tennessee

- Model LB 5100 Low Background Counting System

#### 6.0 Final Status Survey Results Compared to Compliances Criteria

##### 6.1 Final Status Survey Results

The final status survey results for the reactor room (Pangborn B16 R), the reactor pit/reactor steel tank, located within this room and the original Power Plant reactor location have been grouped separately and are attached to this report as Appendices A, B, and C respectively.

##### 6.2 Compliance Criteria

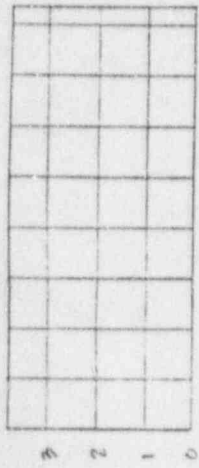
The decommissioning criteria for surface contamination has been established in the decommissioning plan and NRC Regulatory Guide 1.86. The decommissioning criteria for external exposure measured at 1 meter from surfaces has also been established in the decommissioning plan and for this facility can not exceed 5 micro-R/hour gamma above background.



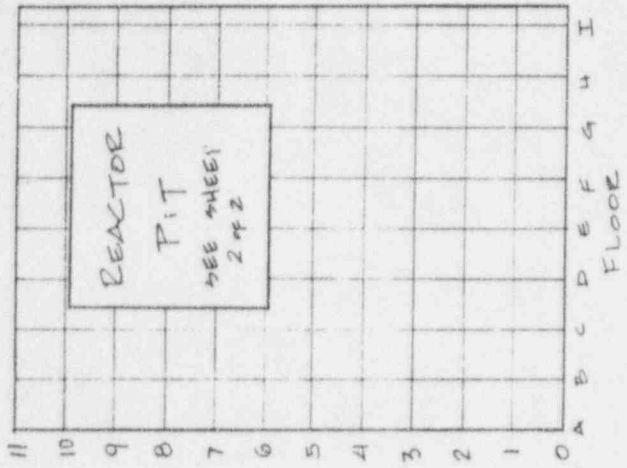
### 6.3 Comparison of Final Status Survey Results to Compliance Criteria

The survey data in Appendices A, B, and C verify that final residual surface contamination and external radiation levels measured at 1 meter from surfaces meet the acceptable compliance criteria as specified in the approved decommissioning plan and NRC Regulatory Guide 1.86 titled "Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use or Termination of Licenses for Byproduct, Source, or Special Nuclear Material.

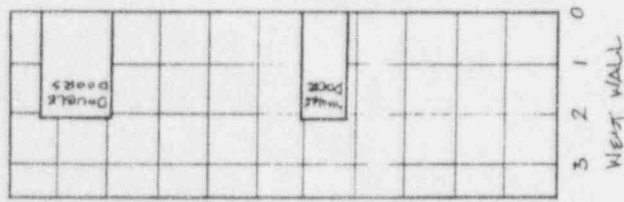
REACTOR ROOM  
- GRID MAP A-1 -



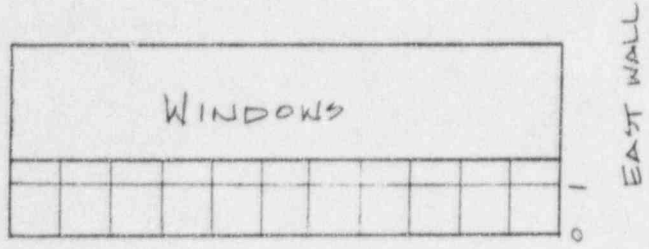
NORTH WALL



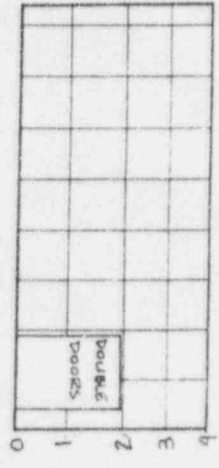
FLOOR



WEST WALL



EAST WALL



SOUTH WALL



SCALE 1:100 (METERS)

PANHANDLE RM B-161  
REACTOR ROOM  
DECOMMISSIONING

Revised  
9/95

LDC