Machine/Line is a harsh environment with a rating of M3I3C3E3. Since the E factor, electromagnetic, is high, the likely cabling would be optical fiber. Since the other factors, M, I and C, are high as well, the cabling would require armor and a durable jacket. Figure 2-6 shows an example of M.I.C.E. diagramming.

Figure 2-6 Sample Environmental Analysis Using the M.I.C.E. System

Figure 3-3 Device Level Ring Topology

Optical fiber is also used in the Cell/Area Zone. Frequently, Cell/Area Zone installations use IP67-rated connector options. Copper cabling using Nr3l/ATJ46.ATJ8P.1(ecti)-4.4(v).9(it)-4.4(y (see)]TJ0 0 1 rg25.7229 0 TD.0

Physical Network Design Considerations

Figure 4-7 illustrates a simplified Industrial Zone physical deployment between Levels 0-3. Depending on the plant/site size, the Level 3 Site Operations could connect to the Cell/Area Zone(s) through Core Switches. The links between the core switches in the Level 3 Site Operations and the distribution switch in the IDF use fiber-optic cabling. The distribution layer also connects i6lustrat9s a sim

Figure 4-8 Typical IDF Deployment

devices to control port usage and keyed patch cords to

Figure 5-1 Pathway Options

The simplest and lowest cost pathways are J-Hooks. J-Hooks can be mounted to a wall, beam or other surface. Network cables are held in place by the hook feature and often secured with a cable tie. The J-Hook maintains proper bend radius control when transitioning down. J-Hook systems should be used with cables that have rigidity to have an acceptable bend between spans and is suitable for a small bundle. Standard fiber

cable bend (static). Essentially, the bend allows th