Table 5: Program snippet for the EB HANDLER ROUTINE

```
                                                        //EB ENTRY HANDLER ROUTINE
if (ebSwitchPosition == 0) {                            //EB switch set to main
    ebPosition = 1;                                     //EB is on main
    greenRedEBmast();                                   //Give green to enter main, reset to red when reach EB mast
}
else if (ebSwitchPosition == 1 && holdState == 1) {     //Checks if siding is on hold
    ebPosition = 2;                                     //EB is on siding
    holdDirection = 1;                                  //Flags the direction the train was going when put on hold 1=EB 2=WB
    redYellowEBdwarf();                                 //EB enters siding, signals reset to red/red when reach EB dwarf
}
//WB ENTRY HANDLER ROUTINE (if necessary)
if (wbSwitchApproach == 1) {                            //Check for WB
    while (wbSwitchPosition == ebSwitchPosition) {      //If switches are the same, switch is fouled
        WBfouled();                                     //Function to flash led, wait for switch to be changed
    }
    if (wbSwitchPosition == 0) {                        //WB switch set to main
        wbPosition = 1;                                 //WB is on main
        greenRedWBmast();                               //Waits for WB mast to indicate train is in, then sets red/red
    }
    if (wbSwitchPosition == 1 && holdState == 1) {      //WB switch set to siding
        wbPosition = 2;                                 //WB is on siding
        holdDirection = 2;                              //Flags the direction the train was going when put on hold
        redYellowWBdwarf();                             //WB enters siding, signals reset to red/red
    }
}
//CLEAR MAIN
if (ebPosition == 1) {                                  //Clear EB on main
    while (wbSwitchPosition == 1) {                     //Change WB position to main
        WBfouled();
    }
    ebDeparted = 1;
    greenRedEBsignal();                                 //EB clears main, signals reset to red/red
}
if (wbPosition == 1) {                          //Clear WB on main
    while (ebSwitchPosition == 1) {             //Change EB position to main
        EBfouled();
    }
    wbDeparted = 1;
    greenRedWBsignal();                         //WB clears main, signals reset to red/red
}
//CLEAR SIDING AS LONG AS NO HOLD
if (holdState == 1) {                           //Clears siding if not on hold
    if (ebPosition == 2) {                      //Clear EB on siding
        while (wbSwitchPosition == 0) {         //Change WB position to siding
            WBfouled();
        }
        ebDeparted = 1;
        redYellowEBsignal();  //EB clears siding
    }
    if (wbPosition == 2) {                      //Clear WB on siding
        while (ebSwitchPosition == 0) {         //Change EB position to siding
            EBfouled();
        }
        wbDeparted = 1;
        redYellowWBsignal();                    //WB clears siding
    }
}
ebSwitchApproach = 0;
wbSwitchApproach = 0;
ebApproachSwitched = 0;
wbApproachSwitched = 0;
break;
```