Write a 61131-3 structured text program to implement interlocks for safety doors in a chemical reactor.

I'm assuming you want a simple example of a safety interlock system for safety doors in a chemical reactor using Structured Text (ST) programming language, according to the IEC 61131-3 standard. Here's a basic implementation:

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```
PROGRAM SafetyDoorInterlock
VAR
    safetyDoorClosed: BOOL := FALSE;
    safetyDoorLocked: BOOL := FALSE;
    safetyDoorOpenRequest: BOOL := FALSE;
    safetyDoorCloseRequest: BOOL := FALSE;
    reactorRunning: BOOL := FALSE;
    reactorEmergencyStop: BOOL := FALSE;
    reactorStartRequest: BOOL := FALSE;
    reactorStopRequest: BOOL := FALSE;
END_VAR
```

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```
METHOD RunInterlocks: BOOL
    // Reactor start request interlock
    IF reactorStartRequest AND NOT safetyDoorClosed THEN
        RETURN FALSE;
    END_IF;

    // Reactor stop request interlock
    IF reactorStopRequest AND reactorRunning THEN
        reactorRunning := FALSE;
    END_IF;

    // Safety door open request interlock
    IF safetyDoorOpenRequest AND NOT reactorRunning AND safetyDoorClosed TH
        safetyDoorClosed := FALSE;
        safetyDoorLocked := FALSE;
    END_IF;

    // Safety door close request interlock
    IF safetyDoorCloseRequest AND NOT safetyDoorClosed THEN
        safetyDoorClosed := TRUE;
        safetyDoorLocked := TRUE;
    END_IF;

    // Reactor emergency stop interlock
    IF reactorEmergencyStop THEN
        reactorRunning := FALSE;
    END_IF;

    // Update reactor state
    IF reactorStartRequest AND safetyDoorClosed AND NOT reactorRunning THEN
        reactorRunning := TRUE;
    END_IF;

    RETURN TRUE;
END_METHOD
```

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```
END_PROGRAM
```

This program implements a simple interlock system for safety doors in a chemical reactor. The reactor can only start if the safety door is closed, and the safety door can only open if the reactor is not running. Additionally, the reactor can be stopped in case of an emergency.

Please note that this is a basic example and should not be used as-is for a real-world application. Actual safety systems need to be designed according to specific safety standards and requirements. Consult a professional control system engineer to design and implement a safety interlock system for your specific needs.