Overarching task and human error analysis – Safety Instrumented Function (SIF) proof testing

This analysis is part of an overall approach to address a significant proportion of issues, but not all of them. It is provided as an example template but should be used by people competent in human factors with input from personnel with appropriate technical and operational knowledge and experience. The overarching assessment covers some of the most standard types of SIF. It does not cover more complicated arrangements such as voted systems.

Abbreviations used in the table include:

- MAH = Major Accident Hazard. Where used in the 'Consequences' column it highlights that the step is potentially related to MAH.
- PIF = Performance Influencing Factors. A list with the coding shown is included in the job aid available from https://www.abrisk.co.uk/images/Task_risk_management_job_aid06.pdf. The PIF lists is based on one from the HSE website.
- Ex and COMPEX refer to systems in place for managing risks of ignition.

ID	Description	Comments	Activity Type	Failure Mode	Failure Mode	Consequences	Risk controls	PIF (for MAH)
1	Identify system components							
1.1	Identify initiators	Tag numbers on initiator and paperwork shall be the same	Selection	SEL2 Selection incorrect	Incorrect initiator used for the test	May activate the wrong SIF. If the SIF is associated with running plant it will shut down the plant.		
1.2	Identify final elements	Tag numbers on final elements and paperwork shall be the same	Selection	SEL2 Selection incorrect	Incorrect final element is monitored during the test	May not collect the evidence required to satisfy the proof test.		
			Actions	ACT11 Action too early/late	SIF is activated when personnel are not ready to monitor	MAH - In some cases the first activation is critical. In these cases failure to collect evidence will invalidate part of the test.	In most cases the test can be repeated and the results will be valid. In most cases activation of the final element will be recorded on the control/safety system and this data can be used as evidence of test success.	J5/P5 - Competence (avoid mis-fire)
1.3	Identify tidy-up functions		Information Retrieval	INFR1 Information not obtained	Tidy-up functions not considered	May not confirm that tidy-up functions are operating correctly, which may lead to operational problems when in service.		

ID	Description	Comments	Activity Type	Failure Mode	Failure Mode	Consequences	Risk controls	PIF (for MAH)
2	Visually inspect the SIF components							
2.1	Confirm labelling is intact, legible and correct		Checking	CH1 Check omitted	Labelling issues not detected	May contribute to identification errors (see sub-task 1)		
2.2	Visually confirm integrity of physical supports		Checking	CH1 Check omitted	Physical supports are degraded or unsuitable	MAH - Component may be compromised. May mean that a SIF does not function on demand, which may contribute to loss of containment.	Supports are designed to be robust for the environment. Operators routinely patrol the area and would notice degradation or damage.	J11 - Access J5/P5 - Competence (visual checks)
2.3	Visually confirm integrity of power supplies	Pneumatic or electrical	Checking	CH1 Check omitted	Power supplies are degraded or unsuitable	Component may be compromised. May result in it changing to its 'safe' state leading to plant trip or other operational issues.		
			Situation Evaluation	SA1 SA omitted		MAH - Component may be compromised. May mean that a SIF does not function on demand, which may contribute to loss of containment.	Power cables are designed to be robust for the environment. SIF designed to fail safe on loss of power.	J11 - Access J5/P5 - Competence (visual checks)
2.4	Confirm electrical components satisfy Ex		Checking	CH1 Check omitted	Electrical components are degraded or unsuitable	MAH - Component may become a source of ignition	Components are selected to be suitable for the environment. Technicians are all competent for working with Ex circuits (COMPEX)	J11 - Access J5/P5 - Competence (visual checks) P5 - Competence (COMEX includes visual 'close' and 'detailed' checks).

ID	Description	Comments	Activity Type	Failure Mode	Failure Mode	Consequences	Risk controls	PIF (for MAH)
2.5	Visually confirm integrity of the connection to the process		Checking	CH1 Check omitted	Process connections are degraded or unsuitable	MAH - physical failure of block/tubing may result in loss of containment.	For analogue instruments that are not normally at zero/ambient it is possible to cross check outputs with other measured values (revealed failures). Where this is not an option an independent check is highlighted as critical.	J11 - Access J5/P5 - Competence (visual checks) P5 - Competence (small bore tubing)
					Unable to view the process connections	MAH - In some cases it is not possible to view connections to process (e.g. insulation)	This is a risk that is identified on a case by case basis.	J3 - Difficulty of task (not visible) J11 - Access J5/P5 - Competence (visual checks)
2.6	Confirm insulation is in place and in good condition (if required)		Checking	CH1 Check omitted	Insulation is missing or in poor condition	MAH - May contribute to blockages of instrument tubing or final element mechanism resulting in failure of the SIF to function on demand.	Insulation is designed to be robust for the environment and installed by competent contractors. Operators routinely patrol the area and would notice degradation or damage. For analogue instruments that are not normally at zero/ambient it is possible to cross check outputs with other measured values (revealed failures). Where this is not an option an independent check is highlighted as critical.	J11 - Access J5/P5 - Competence (visual checks)

ID	Description	Comments	Activity Type	Failure Mode	Failure Mode	Consequences	Risk controls	PIF (for MAH)
2.7	Confirm heat tracing is in place and operating correctly (if required)		Checking	CH1 Check omitted	Heat tracing is not operating	MAH - May contribute to blockages of instrument tubing or final element mechanism resulting in failure of the SIF to function on demand.	Trace heating is subject routine inspection by Electrical Tech. For analogue instruments that are not normally at zero/ambient it is possible to cross check outputs with other measured values (revealed failures). Where this is not an option an independent check is highlighted as critical.	J3 - Difficulty of task (not visible) J5/P5 - Competence (heat tracing status)
			Situation Evaluation	SA1 SA omitted	Prevailing conditions mean the trace heating is not energised at the time of the test	MAH - Cannot confirm that trace heating is working as required	Trace heating is subject routine inspection by Electrical Tech.	J8 - Tools/equipment (green light at end of trace heating circuit)
3	Prepare to activate the SIF							
3.1	Override and/or inhibit systems if required	Includes interlocks that prevent operation of the final element						
3.1.1	Apply the inhibits / overrides		Actions	ACT10 Action incomplete	Not all required overrides/inhibits applied	May cause running plant to trip causing operational problems.		
			Actions	ACT7 Right action on wrong object	Wrong functions overridden or inhibited	MAH - SIF may not operate on demand on running plant.	Inhibits are clearly identified on both the procedure and the HMI. The status of inhibits is indicated clearly. Error would be discovered when carrying out the proof test because a required inhibit would not be in place and the test could not be completed.	J5 - Procedures (inhibits/overrides identified) J6 - Preparation (inhibits/overrides) P5 - Competence (manage inhibits/overrides)

ID	Description	Comments	Activity Type	Failure Mode	Failure Mode	Consequences	Risk controls	PIF (for MAH)
			Actions	ACT7 Right action on wrong object	Wrong functions overridden or inhibited	SIF test may not provide the results required to confirm its operation.		
3.1.2	Record the inhibits / overrides	Specified in the proof test procedure. It is only a short term inhibit so will not be recorded in the Override/Inhibit log.	Information Entry	INFE3 Information entry incomplete	Overrides / inhibits are not recorded	MAH - Overrides / inhibits may not be re enabled after the test is complete. Plant will not be protected from hazardous situations.	Standard requirement to record all inhibits and overrides. The status of inhibits is indicated clearly on the HMI.	J5 - Procedures (inhibits/overrides identified) J6 - Preparation (inhibits/overrides) P5 - Competence (manage inhibits/overrides)
3.2	Set-up the process to allow operation of the final element		Actions	ACT9 Action omitted	Final element cannot be put in its non-trip status	MAH - May not be able to confirm the final element operates when the SIF is activated.	Error would be discovered when carrying out the proof test because it would not be possible to observe a required action of the SIF.	J6 - Preparation (operational status for testing) J5/P5 - Competence (Operational status for testing)
3.3	Prepare for initiation by electronic simulation							
3.3.1	Disconnect the cables from the initiator		Actions	ACT9 Action omitted	Left connected	Cannot connect simulator		
3.3.2	Record the cable connections details		Information Entry	INFE2 Wrong information entered	Cable connections not recorded correctly	MAH - May reconnect incorrectly after proof test. May mean the initiator does not read correctly. May mean SIF does not operate at correct point on demand.	Loop diagram may show the correct connections. Discrepancies would be noticed by cross checking with another transmitter when returning to service.	J5/P5 - Competence (cable connections)
3.3.3	Connect electronic simulator		Actions	ACT6 Misalign	Simulator connected incorrectly	The simulator may not affect the SIF as intended. May result in unplanned activation.		

ID	Description	Comments	Activity Type	Failure Mode	Failure Mode	Consequences	Risk controls	PIF (for MAH)
			Actions	ACT12 Action in wrong order	SIF is activated when personnel are not ready to monitor	MAH - In some cases the first activation is critical. In these cases failure to collect evidence will invalidate part of the test.	In most cases the test can be repeated without any affect on the outcome. Where the first activation is critical this is clearly highlighted in the procedure.	J5/P5 - Competence (avoid mis-fire)
3.3.4	Simulate an input that is outside of the SIF activation range		Actions	ACT4 Action too little/much	Simulated input it within the SIF activation range	May result in the SIF being activated too early.		
			Actions	ACT11 Action too early/late	SIF is activated when personnel are not ready to monitor	MAH - In some cases the first activation is critical. In these cases failure to collect evidence will invalidate part of the test.	In most cases the test can be repeated without any affect on the outcome. Where the first activation is critical this is clearly highlighted in the procedure.	J5/P5 - Competence (avoid mis-fire)
3.3.4	Confirm the simulated value is reaching the SIF correctly	Cross check input with output shown on control/safety system	Checking	CH1 Check omitted	Input and output are not the same	May mean the SIF activation set-point is not confirmed by the test. May incorrectly believe the SIF is faulty and waste time/effort on an unnecessary repair.		
3.4	Prepare for initiation by pressure source							
3.4.1	Isolate the initiator from the process		Actions	ACT9 Action omitted	Initiator is not isolated	Increased quantity of process fluid released when block/tubing is vented		
3.4.2	Vent the initiator		Actions	ACT9 Action omitted	Initiator remains pressurised	Calibrator may be exposed to process pressure when connected. May damage the calibrator.		

ID	Description	Comments	Activity Type	Failure Mode	Failure Mode	Consequences	Risk controls	PIF (for MAH)
3.4.3	Confirm the isolation integrity		Checking	CH1 Check omitted	Isolation integrity is not confirmed	Calibrator may be exposed to process pressure when connected. May damage the calibrator.		
3.4.4	Ensure correct test fluid is in the calibrator		Checking	CH1 Check omitted	Wrong fluid used	MAH - Fluid may remain in instrument. Could cause blockage that could mean SIF does not activate on demand.	Correct fluid is stated in the procedure. All fluids used are readily available on site.	J6 - Preparation (test fluid) J5/P5 - Competence (correct test fluid)
3.4.5	Connect the calibrator to the vent		Actions	ACT9 Action omitted	Simulator not connected	Cannot carry out the test		
3.4.6	Simulate an input that is outside of the SIF activation range		Actions	ACT4 Action too little/much	Simulated input it within the SIF activation range	May result in the SIF being activated too early.		
			Actions	ACT11 Action too early/late	SIF is activated when personnel are not ready to monitor	MAH - In some cases the first activation is critical. In these cases failure to collect evidence will invalidate part of the test.	In most cases the test can be repeated without any affect on the outcome. Where the first activation is critical this is clearly highlighted in the procedure.	J5/P5 - Competence (avoid mis-fire)
3.4.7	Confirm the simulated value is reaching the SIF correctly		Checking	CH1 Check omitted	Input and output are not the same	May mean the SIF activation set-point is not confirmed by the test. May incorrectly believe the SIF is faulty and waste time/effort on an unnecessary repair.		
3.5	Prepare for initiation by level bridle							
3.5.1	Isolate the level bridle from the process		Actions	ACT9 Action omitted	Level bridle is not isolated	Increased quantity of process fluid released when block/tubing is vented		

ID	Description	Comments	Activity Type	Failure Mode	Failure Mode	Consequences	Risk controls	PIF (for MAH)
3.5.2	Drain the level bridle		Actions	ACT9 Action omitted	Level bridle is not drained	May not be able to simulate a low level.		
3.5.3	Connect the test source to the drain	Test fluid is water	Actions	ACT9 Action omitted	Test source is not connected	Cannot carry out the test		
			Actions	ACT7 Right action on wrong object	Incompatible test fluid used	MAH - Blockage in level bridle may prevent the initiator from measuring the process. SIF may not function on demand.	Correct fluid is stated in the procedure. All fluids used are readily available on site.	J6 - Preparation (test fluid) J5/P5 - Competence (correct test fluid)
3.5.4	Introduce a level that is outside of the SIF activation range		Actions	ACT4 Action too little/much	Level is within the SIF activation range	May result in the SIF being activated too early.		
			Actions	ACT11 Action too early/late	SIF is activated when personnel are not ready to monitor	MAH - In some cases the first activation is critical. In these cases failure to collect evidence will invalidate part of the test.	In most cases the test can be repeated without any affect on the outcome. Where the first activation is critical this is clearly highlighted in the procedure.	J5/P5 - Competence (avoid mis-fire)
3.5.5	Confirm the simulated value is reaching the SIF correctly		Checking	CH1 Check omitted	Input and output are not the same	May mean the SIF activation set-point is not confirmed by the test. May incorrectly believe the SIF is faulty and waste time/effort on an unnecessary repair.		
3.6	Prepare for initiation by exposing the sensor to a controlled condition	Includes level switches that removed and placed in liquid to test, temperature probes that are removed and placed in a heated unit to test, flame detectors that are removed and exposed to different light intensities.						

ID	Description	Comments	Activity Type	Failure Mode	Failure Mode	Consequences	Risk controls	PIF (for MAH)
3.6.1	Isolate the initiator from the process		Actions	ACT9 Action omitted	Initiator is not isolated	May result in loss of process fluid when initiator is removed		
3.6.2	Remove the initiator from the plant		Actions	ACT9 Action omitted	Initiator is left in place	Cannot carry out the test		
3.6.3	Protect the initiator from premature activation		Actions	ACT6 Misalign	Initiator experiences condition change	May result in the SIF being activated too early.		
			Actions	ACT11 Action too early/late	SIF is activated when personnel are not ready to monitor	MAH - In some cases the first activation is critical. In these cases failure to collect evidence will invalidate part of the test.	In most cases the test can be repeated without any affect on the outcome. Where the first activation is critical this is clearly highlighted in the procedure.	J5/P5 - Competence (avoid mis-fire)
3.7	Ensure final elements are in non-trip status	Includes indications on DCS and local	Checking	CH1 Check omitted	Final element is in its tripped status	MAH - Will not be able to confirm final element operation when the SIF is activated	Error would be discovered when carrying out the proof test because it would not be possible to observe a required action of the SIF.	J2 - Interface (final element status) J5/P5 - Competence (non-trip status)
4	Activate the SIF							
4.1	Set the simulated input to close but outside of the activation set point	Typically create an input just outside of the set point then make minor adjustments until the SIF activates. For a level switch this would be holding it near to the test liquid.	Actions	ACT4 Action too little/much	Level is within the SIF activation range	May result in the SIF being activated too early.		
			Actions	ACT11 Action too early/late	SIF is activated when personnel are not ready to monitor	MAH - In some cases the first activation is critical. In these cases failure to collect evidence will invalidate part of the test.	In most cases the test can be repeated without any affect on the outcome. Where the first activation is critical this is clearly highlighted in the procedure.	J5/P5 - Competence (avoid mis-fire)

ID	Description	Comments	Activity Type	Failure Mode	Failure Mode	Consequences	Risk controls	PIF (for MAH)
4.2	Confirm the simulated input is reaching the SIF correctly		Checking	CH1 Check omitted	Input and output are not the same	May mean the SIF activation set-point is not confirmed by the test. May incorrectly believe the SIF is faulty and waste time/effort on an unnecessary repair.		
4.3	Adjust the input until the SIF activates		Actions	ACT5 Action too fast/slow	Input value changed too quickly.	MAH - May not be able to confirm that the SIF activates within an acceptable tolerance. The SIF performance may not be sufficient to achieve the required risk reduction.	SIF activation will be monitored directly and feedback will be immediately available if it had not been possible to determine the activation point. Test can be repeated to confirm the activation set point.	J8 - Tools (simulator adjustments) J5/P5 - Competence (adjust to set point)
4.4	Confirm the final element operates		Situation Evaluation	SA1 SA omitted	Operation of final element is not confirmed	MAH - Test will not confirm SIF is fit for purpose. It may not function on demand.	SIF activation will be monitored directly and feedback will be immediately available if it had not been possible to determine the activation point. Test can be repeated to confirm the activation set point.	J2 - Interface (final element status) J5/P5 - Competence (trip status)
4.5	Confirm status indications for the final element and SIS status update correctly		Checking	CH1 Check omitted	Status indications are incorrect	May cause operational issues if SIF activation is not communicated clearly to operations.		
4.6	Confirm operation of tidy-up actions		Checking	CH1 Check omitted	Tidy-up actions fail	Possible operational issues if the SIF activates on demand.		

ID	Description	Comments	Activity Type	Failure Mode	Failure Mode	Consequences	Risk controls	PIF (for MAH)
4.7	Collect the data required to confirm the performance criteria have been met	Typically time of operation after SIF activation	Information Retrieval	INFR4 Information incorrectly interpreted	Test result considered to be a pass when it was actually a fail	MAH - Test will not confirm SIF is fit for purpose. It may not function on demand.	Proof test procedures define data required and Technicians record this on the printed copy. The event log can be used to confirm if every required.	J2 - Interfaces (data from test) J5/P5 - Competence (data required from test)
			Information Retrieval	INFR3 Information retrieval incomplete	Not all required data is collected	MAH - Test will not confirm SIF is fit for purpose. It may not function on demand.	Proof test procedures define data required and Technicians record this on the printed copy. The event log can be used to confirm if every required.	J2 - Interfaces (data from test) J5/P5 - Competence (data required from test)
5	If test is successful, return SIF to operating status							
5.1	Adjust the input until it is outside of the activation set-point	Reset is critical to switches, which are no longer used for SIF. For transmitters the reset is purely an operational issue.	Actions	ACT5 Action too fast/slow	Adjust too quickly	May not detect the re-set point. May not recognise the need to adjust the re-set. May result in process problems.		
5.2	Confirm that the SIF has reset		Actions		SIF has not reset	May not detect the re-set point. May not recognise the need to adjust the re-set. May result in process problems.		
5.3	Carry out full range calibration		Actions	ACT9 Action omitted	Calibration checks not carried out at the same time as the proof test	MAH - Carrying out calibration checks separately creates another occasion when the SIF loop has to be broken into with the risk that it is then not return to service.	Calibration routine is captured in the maintenance management system. Scheduling for the same time as proof testing is identified as best practice for planners.	J5/P5 - Competence (full range calibration)

ID	Description	Comments	Activity Type	Failure Mode	Failure Mode	Consequences	Risk controls	PIF (for MAH)
5.4	Collect the data required to confirm the performance criteria (for reset) have been met		Information Entry	INFE3 Information entry incomplete	Information not recorded	Will not have a full history of the SIF. If there are problems in the future it may be difficult to determine the cause.		
5.5	Return sensor exposed to a controlled condition for the test to service							
5.5.1	Refit the initiator		Actions	ACT9 Action omitted	Initiator not refitted	MAH - SIF will not function on demand. In some cases (e.g. level switch) there be no independent indication that the initiator has been refitted and/or de-isolated.	For analogue instruments that are not normally at zero/ambient it is possible to cross check outputs with other measured values (revealed failures). Where this is not an option an independent check is highlighted as critical.	J5/P5 - Competence (refit initiator)
5.5.2	De-isolate the initiator to process		Actions	ACT9 Action omitted	Initiator not refitted	MAH - SIF will not function on demand. In some cases (e.g. level switch) there be no independent indication that the initiator has been refitted and/or de-isolated.	For analogue instruments that are not normally at zero/ambient it is possible to cross check outputs with other measured values (revealed failures). Where this is not an option an independent check is highlighted as critical.	J5/P5 - Competence (initiator operational status)
5.6	Return a level bridle initiator to service							

ID	Description	Comments	Activity Type	Failure Mode	Failure Mode	Consequences	Risk controls	PIF (for MAH)
5.6.1	Disconnect test source from drain		Actions	ACT9 Action omitted	Test source left connected	Cannot return to service		
5.6.2	Drain test fluid from level bridle		Actions	ACT9 Action omitted	Test fluid remains in level bridle	No significant consequences (assuming compatible fluid is used)		
5.6.3	De-isolate the level bridle to process		Actions	ACT9 Action omitted	Level bridle is left isolated	MAH - Initiator will not measure the process. SIF will not function on demand.	For analogue instruments that are not normally at zero/ambient it is possible to cross check outputs with other measured values (revealed failures). Where this is not an option an independent check is highlighted as critical.	J5/P5 - Competence (initiator operational status)
5.7	Return a pressure initiator to service							
5.7.1	De-pressurise the calibrator		Actions	ACT9 Action omitted	Calibrator is left pressurised	Harm to person when disconnecting		
5.7.2	Disconnect the calibrator		Actions	ACT9 Action omitted	Calibrator left connected	MAH - Calibrator may prevent the initiator from measuring the process. SIF may not function on demand.	This error is not considered credible. It would be immediately noticed at the instrument and the missing calibrator will noticed.	J5/P5 - Competence (initiator operational status)
			Actions	ACT9 Action omitted	Calibrator left connected	Calibrator may be over pressurised by the process when initiator is de isolated.		

ID	Description	Comments	Activity Type	Failure Mode	Failure Mode	Consequences	Risk controls	PIF (for MAH)
5.7.3	De-isolate the initiator to process		Actions	ACT9 Action omitted	Initiator is left isolated	MAH - Initiator will not measure the process. SIF will not function on demand.	For analogue instruments that are not normally at zero/ambient it is possible to cross check outputs with other measured values (revealed failures). Where this is not an option an independent check is highlighted as critical.	J5/P5 - Competence (initiator operational status)
5.8	Return an electronic simulation initiator to service							
5.8.1	Disconnect the simulator		Actions	ACT9 Action omitted	Calibrator is left connected	MAH - Calibrator may prevent the initiator from measuring the process. SIF may not function on demand.	This error is not considered credible. It would be immediately noticed at the instrument and the missing calibrator will noticed.	J5/P5 - Competence (initiator operational status)
5.8.2	Reconnect the cables to the initiator	Refer to record of cable connections made earlier	Actions	ACT9 Action omitted	Cables not connected	MAH - Initiator will not measure the process. SIF will not function on demand.	For analogue instruments that are not normally at zero/ambient it is possible to cross check outputs with other measured values (revealed failures). Where this is not an option an independent check is highlighted as critical.	J5/P5 - Competence (initiator operational status)

ID	Description	Comments	Activity Type	Failure Mode	Failure Mode	Consequences	Risk controls	PIF (for MAH)
			Actions	ACT6 Misalign	Cables connected incorrectly	MAH - Initiator may read the process incorrectly. SIF may not function on demand.	For analogue instruments that are not normally at zero/ambient it is possible to cross check outputs with other measured values (revealed failures). Where this is not an option an independent check is highlighted as critical.	J5/P5 - Competence (initiator operational status)
5.9	Cross check the initiator output with other process data to confirm it is accurately tracking plant conditions (where possible)	Only possible for transmitters that experience process changes. Does not apply to switches or transmitters that normally show ambient temperature/pressure or zero level/flow. Switch blocks shall be blown clear to confirm they are seeing pressure (if there is any pressure).	Checking	CH1 Check omitted	Do not cross check	MAH - A problem with reinstatement may not be detected. May mean the SIF is not available to function on demand. In some cases (e.g. vessels normally at atmospheric pressure) there may be no independent indication that initiator has been de-isolated.	Visual status checks carried out by independent technician.	J2 - Interfaces (cross check) J5/P5 - Competence (cross checking)
5.10	Confirm the SIF is in a healthy state (if possible)	May not be possible for some if testing carried out during plant shut down (e.g. low level/pressure SIF)	Checking	CH1 Check omitted	SIF is not healthy	Plant cannot return to service		
5.11	Return process to its normal status	Reverse actions taken before the test to allow operation of the final elements	Actions	ACT9 Action omitted	Process not returned to required status	Operational problems		
5.12	Re-enable overridden / inhibited systems							

ID	Description	Comments	Activity Type	Failure Mode	Failure Mode	Consequences	Risk controls	PIF (for MAH)
5.12.1	Remove override / inhibits		Actions	ACT10 Action incomplete	One or more overrides / inhibits left on	MAH - Actions from the SIF may not be active meaning the plant is not fully protected.	The affect depends on the specific arrangements. In most cases it would be an operational issue. Any inhibits/overrides required are identified in the proof test procedure with sign-offs confirm removal.	J5/P5 - Competence (manage inhibits/overrides)
5.12.2	Update records		Information Entry	INFE3 Information entry incomplete	Overrides / inhibits records not updated	May cause confusion if actual status is found to be different to records.		
6	If test is unsuccessful, develop an appropriate plan							
6.1	Develop an operational plan to manage risks until SIF is repaired	Plan may be to shut down or implement pressure controls	Selection	SEL2 Selection incorrect	Operational plan does not achieve tolerable risk	MAH - Plant may not be properly protected against a MAH scenario.	A procedure is in place to assess risks of degraded systems that provided guidance for the correct operational strategy to be adopted.	J5/P5 - Competence (operate with degraded SIF)
6.2	Arrange for repair	Test to be repeated after test	Actions	ACT9 Action omitted	Repair not arranged	Delay returning to normal operation. May increase time at risk.		
7	Update and review SIF data file		Actions	ACT10 Action incomplete	Information not recorded	Will not have full history for the SIF. If there is a problem in the future, it may not be possible to determine the cause.		