

ESCENARIO: Low to medium traffic, most flights are IFRs, mountainous topography, only VOR/DME available, No PBN implemented, all procedures are based on VOR/DME reference

### DEFICIENCY (HAZARD) IDENTIFICATION AND RISK ASSESSMENT REPORT

<b>1. Description of identified deficiency:</b>	There is no provision of information on the operational status of the “LLL” ILS services in the CCC TWR
<b>2. State/Territory/Organization:</b>	XXXX
<b>3. Report N°:</b>	CNS-XXXX CAR
<b>4. Date of identification:</b>	03/05/13
<b>5. Deficiency reported by:</b>	ICAO CNS Technical Assistance Mission 3 May 2013
<b>6. Air Navigation Area Facility/service involved:</b>	FFF Tower Control Unit
<b>7. Specific requirement:</b>	Annex 10, Vol. I, Chap 2, 2.3: <b>Provision of information on the operational status of radio navigation services</b> 2.3.1 Aerodrome control towers and units providing approach control service shall be provided with information on the operational status of radio navigation services essential for approach, landing and take-off at the aerodrome(s) with which they are concerned, on a timely basis consistent with the use of the service(s) involved.
<b>8. Potential consequences of the hazard caused by the deficiency:</b>	Aircraft incident due to authorization of procedure when no navaid is available or malfunctioning
<b>9. Mitigation currently implemented (if known):</b>	Navaid technician call the controller when navaid fails, when available.
<b>10. Remarks:</b>	
<b>11. Report prepared by: (ICAO Officer)</b>	ICAO NACC RO/CNS

DEFICIENCY (HAZARD) IDENTIFICATION AND RISK ASSESSMENT REPORT						
		RISK SEVERITY				
		Catastrophic A	Hazardous B	Major C	Minor D	Negligible E
RISK PROBABILITY	Frequent 5	5A	5B	5C	5D	5E
	Occasional 4	4A	4B	4C	4D	4E
	Remote 3	3A	3B	3C	3D	3E
	Improbable 2	2A	2B	2C	2D	2E
	Extremely Improbable 1	1A	1B	1C	1D	1E
5A, 5B, 5C, 4A, 4B, 3A		<b>Intolerable region (equivalent to U-priority deficiencies)</b> Unacceptable under the existing circumstances				
5D, 4C, 4D, 3B, 3C, 2A, 2B, 5E, 2C, 4E, 3D		<b>Tolerable region (equivalent to A-priority deficiencies)</b> Acceptable based on risk mitigation. It may require management decision.				
1A, 1B, 1C, 1D, 1E, 2E, 3E, 2D		<b>Acceptable region (equivalent to B-priority deficiencies)</b> Acceptable				
<b>Probability</b>		Is defined as the likelihood that an unsafe event or condition might occur				
<b>Frequent:</b>		•Likely to occur many times (has occurred frequently)				
<b>Occasional:</b>		•Likely to occur sometimes (has occurred infrequently)				
<b>Remote:</b>		•Unlikely to occur, but possible (has occurred rarely)				
<b>Improbable:</b>		•Very unlikely to occur (not known to have occurred)				
<b>Extremely improbable:</b>		•Almost inconceivable that the event will occur				
<b>Severity:</b>		Is defined as the possible consequences of an unsafe event or condition, taking as reference the worst foreseeable situation.				
<b>Catastrophic</b>		<ul style="list-style-type: none"> <li>•Equipment destroyed</li> <li>•Multiple deaths</li> </ul>				
<b>Hazardous</b>		<ul style="list-style-type: none"> <li>•A large reduction in safety margins, physical distress or a workload such that the operators cannot be relied upon to perform their tasks accurately or completely</li> <li>•Serious injury</li> <li>•Major equipment damage</li> </ul>				
<b>Major:</b>		<ul style="list-style-type: none"> <li>•A significant reduction in safety margins, a reduction in the ability of the operators to cope with adverse operating conditions as a result of increase in workload, or as a result of conditions impairing their efficiency</li> <li>•Serious incident</li> <li>•Injury to persons</li> </ul>				
<b>Minor:</b>		<ul style="list-style-type: none"> <li>•Nuisance</li> <li>•Operating limitations</li> <li>•Use of emergency procedures</li> <li>•Minor incident</li> </ul>				
<b>Negligible:</b>		•Little consequences				

**EXPLANATION OF THE  
“DEFICIENCY (HAZARD) IDENTIFICATION AND RISK ASSESSMENT” FORM**

1. **Description of identified deficiency:** Specifies the deficiency identified or the occurrence of the event, validated by the corresponding Regional Office.
2. **State/Territory/Organization:** Identifies the name of the State/Territory/Organization involved.
3. **Report N°:** Unique Code that identifies the deficiency by State.
4. **Date of identification:** Indicates the DD/MM/YY of the report of the deficiency identified or of the occurrence of the event, as applicable.
5. **Deficiency reported by:** Indicates the source that identified and reported the deficiency.
6. **Air Navigation Area Facility/service involved or activity:** Specifies the air navigation area directly involved in the identified deficiency. More than one area may be listed.
7. **Specific requirement:** Standard/Recommended Practice of ICAO Annex or the reference to the requirement of the deficiency-related Air Navigation Plan requirement. If known, the specific error or failure that affected the operation is included
8. **Potential consequences of the deficiency caused by the deficiency:** Initial assessment of the consequence of the identified deficiency, either by the source reporting the deficiency, or by the Regional Office that sends the report.
9. **Mitigation currently implemented (if known):** If known, existing defences are included.
10. **Remarks:** Observations or comments on the identified deficiency may be included.
11. **Report prepared by (ICAO Officer):** The reporting ICAO Regional Office and Official is specified.



## ATTACHMENT

RISK MITIGATION RECOMMENDATIONS REPORT				
<b>1. Description of identified deficiency:</b>	There is no provision of information on the operational status of the “LLL” ILS services in the CCC TWR			
<b>6. Solution # 1</b>				
<b>7. Description of the solution:</b>	Implementation of operation monitor of navaid in ATS units in TWR			
<b>8. Estimated cost and time for implementation of this solution:</b> \$ 5,000	<b>9. Revised risk assessment if <u>only</u> this solution is to be implemented:</b>	<b>10. Probability:</b>	1	
		<b>11. Severity:</b>	C	
		<b>12. Level of risk:</b>	1C	
<b>13. Potential implementation problems:</b>	<ul style="list-style-type: none"> <li>Navaid limitation for remote monitor</li> <li>Budget limitation</li> <li>Licenses/permission for wiring into Control Tower</li> <li>Console available space</li> </ul>			
<b>14. Solution # 2</b>				
<b>15. Description of the solution:</b>	Established a formal communication procedure to notify the ATC TWR			
<b>16. Estimated cost and time for implementation of this solution</b> \$ XXXX	<b>17. Revised risk assessment if <u>only</u> this solution is to be implemented:</b>	<b>18. Probability:</b>	2	
		<b>19. Severity:</b>	C	
		<b>20. Level of risk:</b>	2C	
<b>21. Potential implementation problems:</b>	<ul style="list-style-type: none"> <li>Source of information needs to be accurate and effective</li> <li>Trust and efficient communication to ATC</li> <li>Agreement with source of notification of failure of the navaid</li> <li>Update ATS Manual/ documentation</li> </ul>			
<b>22. Solution # 3</b>				

RISK MITIGATION RECOMMENDATIONS REPORT						
23. Description of the solution:						
24. Estimated cost and time for implementation of this solution \$ _____		25. Revised risk assessment if <u>only</u> this solution is to be implemented:	26. Probability:			
			27. Severity:			
			28. Level of risk:			
29. Potential implementation problems:						
30. Recommended solution(s):						
31. Estimated cost and time for implementation of recommended solution(s):		\$				
32. Revised risk assessment if implemented as recommended:						
		RISK SEVERITY				
		Catastrophic A	Hazardous B	Major C	Minor D	Negligible E
RISK PROBABILITY	Frequent 5	5A	5B	5C	5D	5E
	Occasional 4	4A	4B	4C	4D	4E
	Remote 3	3A	3B	3C	3D	3E
	Improbable 2	2A	2B	2C	2D	2E
	Extremely Improbable 1	1A	1B	1C	1D	1E
33. Report prepared by (State/Territory/Organization):		XXXX				

## EXPLANATION OF THE “RISK MITIGATION RECOMMENDATIONS REPORT”

The State concerned shall complete the form based on the following explanations:

1. **Description of identified deficiency:** Complete with the same text contained in the deficiency or event occurrence report, validated by the corresponding Regional Office.
2. **State/Territory/Organization:** Complete with the name of the State/Territory/Organization.
3. **Report N°:** Complete with the same code of the identified hazard reported by the Regional Office and to which the risk mitigation recommendations refer.
4. **Date of identification:** Complete with the date (DD/MM/YY) of completion of the form.
5. **Level of risk before mitigation measures are adopted:** Complete with the level of risk estimated with the current mitigation measures.
6. **Solution # 1:** Identifies the number of solution.
7. **Description of the solution:** Complete with a brief description of the first solution to be implemented.
8. **Estimated cost and time for implementation of this solution:** Complete with the estimated cost of implementing the first solution.
9. **Revised risk assessment if only this solution is to be implemented:** Associated to boxes 10, 11 and 12.
10. **Probability:** Complete with the coded and plain-language Probability index that would be achieved with the implementation of this mitigation measure.
11. **Severity:** Complete with the coded and plain-language severity index that would be achieved with the implementation of this mitigation measure.
12. **Level of risk:** Complete with the coded and plain-language tolerability index resulting from the implementation of this mitigation measure.
13. **Potential implementation problems:** Complete with a brief description of the potential implementation problems that might prevent the application of the identified solution.
14. **Solution # 2:** Identifies the number of solution or scenario.
15. **Description of the solution:** Complete with a brief description of the second solution to be implemented.
16. **Estimated cost and time for implementation of this solution:** Complete with the estimated cost of implementing the second solution.
17. **Revised risk assessment if only this solution is to be implemented:** Associated to boxes 18, 19, and 20.

18. **Probability:** Complete with the coded and plain-language Probability index that would be achieved with the implementation of this mitigation measure.
19. **Severity:** Complete with the coded and plain-language severity index that would be achieved with the implementation of this mitigation measure.
20. **Level of risk:** Complete with the coded and plain-language tolerability index resulting from the implementation of this mitigation measure.
21. **Potential implementation problems:** Complete with a brief description of the potential implementation problems that might prevent the implementation of the identified solution.
22. **Solution # 3:** Identifies the number of solution or scenario.
23. **Description of the solution:** Complete with a brief description of the third solution to be implemented.
24. **Estimated cost and time for implementation of this solution:** Complete with the estimated cost of implementing the third solution.
25. **Revised risk assessment if only this solution is to be implemented:** Associated to boxes 26, 27 and 28.
26. **Probability:** Complete with the coded and plain-language Probability index that would be achieved with the implementation of this mitigation measure.
27. **Severity:** Complete with the coded and plain-language severity index that would be achieved with the implementation of this mitigation measure.
28. **Level of risk:** Complete with the coded and plain-language tolerability index resulting from the implementation of this mitigation measure.
29. **Potential implementation problems:** Complete with a brief description of the potential implementation problems that might prevent the implementation of the identified solution.
30. **Recommended solution(s):** Complete with the solution(s) to be implemented for reducing the tolerability index to an acceptable level.
31. **Estimated cost and time for implementation of the recommended solution(s):** Complete with the estimated cost of the solutions to be implemented.
32. **Revised risk assessment if implemented as recommended:** Complete with the risk assessment once the solution(s) described above has (have) been implemented.
33. **Report prepared by (State/Territory/Organization):** Complete with the name of the corresponding aeronautical authority or individual or area generating the report.