#### SAMPLE RUBRIC AND INSTRUCTIONS

##### **SAMPLE RUBRIC**

###### **Overview**

This section provides a general example of the application of the Reactivation Assessment Table (from Section 3) as a rubric. This serves only as an example and can be modified or revised based on the needs of individual stakeholders.



###### **Instructions**

System / Equipment Assessment:

* + - 1. Each system is scored, first considering the Primary categories of Lay-Up Duration and Planned Maintenance. The score is then inserted into the appropriate cell.
			2. A follow up assessment is performed using the Secondary categories of Environmental Conditions and Lay-Up Preparation with scores assigned independently of the Primary categories. This score is likewise input into the appropriate cell.
			3. Each system then receives a Total Weighted Score as calculated using the Primary and Secondary assessment score. The weighting can be determined on a case-by-case basis. As example only, a weighting formula is shown below using a simple average of the Primary and Secondary assessments:

$$Total Weighted Score=\frac{Primary Score+Secondary Score}{2}$$

* + - 1. Each system undergoes a similar process and receives a Total Weighted Score calculated as above.

Full Asset Assessment:

* + - 1. Using the Total Weighted Score of the individual system assessments, the full asset may then be assessed as demonstrated below (example only):

$$Asset Total Weighted Score=Sum of individual Total Weighted Scores$$

* + - 1. The asset’s overall status is then determined based on the same rubric as used for the individual system assessment with the colored categories defined according to the original table and definitions provided in Section 3 and assessed according to the same table as provided for individual systems.

###### **Alternative Interpretations**

This Sample Rubric is provided as an example only. Numbers are assigned based solely on a general interpretation of the four categories and their impact on equipment operating condition and status.

Numbers can be interpreted as needed but for this example provide a general overview of condition and operating status.

Numbers assigned to each cell may be replaced by general monetary amounts or time scales that better reflect the specific considerations of an asset’s owner / operator or other stakeholder.

#### ASSESSMENT EXAMPLE

##### **ASSESSMENT EXAMPLE**

###### **Overview**

In this section, a worked example is provided to demonstrate the application of the Assessment Table using the Sample Rubric provided in Appendix A.

This serves only as an example. The rubric may be laid out and the asset scored based on the specific requirements of the vessel owner / operator or on those requirements deemed appropriate by the assessing stakeholder.

###### **Hypothetical Asset and Lay-Up Details**

Asset details, lay-up conditions, and other considerations are as follows:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Asset Type** | **Lay-Up Duration** | **Lay-Up Location** | **Planned Maintenance** | **Lay-Up Preparation** | **Lay-Up Environment** |
| **DPS-2 (Classed)** | **200 days** | **Active shipyard** | **System-specific** | **System-specific** | **External: Subtropical****Internal: System-specific** |

###### **Assessment**

Each system is scored, first considering the Primary categories of Lay-Up Duration and Planned Maintenance. A follow up assessment is performed using the Secondary categories of Environmental Conditions and Lay-Up Preparation with scores assigned independently of the Primary categories.

DP Control & Monitoring System

* The asset and equipment were laid up for a period of 200 days. Basic maintenance only was performed on the DP control and monitoring system. It was not subject to operation for the duration of lay-up.
* PRIMARY SCORE: 10
* Batteries in the DP control and monitoring system were removed. Conditions at the lay-up location were humid and dirty. However, air conditioning was provided to bridge electronics and accommodation spaces. Desiccants were placed in sensitive electronic panels and overall conditions were monitored periodically throughout the duration of lay-up and basic steps taken to mitigate effects of environment.
* SECONDARY SCORE: 13

Power Generation & Distribution

* The asset and equipment were laid up for a period of 200 days. Minimal maintenance was performed on the power generation and distribution equipment.
* PRIMARY SCORE: 5
* Similar to other electronic control systems, batteries in the system were removed. Conditions at the lay-up location were humid and dirty and no air conditioning was provided to any machinery spaces. However, heating elements and other measures were taken to assist in protecting and preserving generators and distribution panels. In addition, all sources of potential power were isolated appropriately.
* SECONDARY SCORE: 11

Main & Auxiliary Engines

* The asset and equipment were laid up for a period of 200 days. Basic maintenance was performed on the engines and other rotating equipment to include periodic, manual rotation of engines.
* PRIMARY SCORE: 10
* Conditions at the lay-up location were humid and dirty and no air conditioning was provided in machinery spaces. Engine fuel and lubrication systems were isolated and drained where necessary but no preservatives added. Overall conditions were monitored periodically throughout the duration of lay-up and basic steps taken to mitigate effects of environment.
* SECONDARY SCORE: 7

Thrusters & Propulsion

* The asset and equipment were laid up for a period of 200 days. No maintenance was performed on the thrusters and propulsion equipment. Systems and equipment were not subject to operation for the duration of lay-up.
* PRIMARY SCORE: 4
* Propulsion equipment was shut down at time of lay-up. Some systems drained and isolated but no preservatives added. Thruster drives were covered with protective sheeting to prevent dust and debris from entering electric windings.
* SECONDARY SCORE: 3

Marine & Auxiliary Systems

* The asset and equipment were laid up for a period of 200 days. Prescriptive maintenance was performed on systems to include operations of critical valves and periodic operational checks of pumps, motors, etc.
* PRIMARY SCORE: 18
* As above, systems were drained and provided with a thorough cleaning prior to being shut down. Main systems were provided with additives to prevent internal corrosion. Fire main systems and critical hotel systems such as air conditioning were maintained in an operational status and maintained accordingly.
* SECONDARY SCORE: 18

###### **Scoring**

Each system’s score is then inserted into the appropriate cell with calculations (for this example) made based on the weighing calculations outlined above.

Scores assigned, as follows:



###### **Interpreting System and/or Equipment Scores**

Each system is provided with an individual, weighted score based on the sample rubric and formulas provided in Appendix A. The conditional status of each system is determined based strictly on the number assigned. Asset owners can use this number to determine the amount of resources – in terms of time, personnel, or financial requirements – to assign to each aspect of reactivation.

In this specific example, it is clear that category of Propulsion & Thrusters will require the largest investment of resources during the reactivation process. The combined impact of the given environment and levels of maintenance and preparation over the period of lay-up negatively impacted the overall score.

The category of Power Generation & Distribution will require the next greatest amount of resources. However, it is noted that despite the low Primary Score assigned during the assessment, the relatively higher score assigned during the Secondary Assessment as a result of the level of Lay-Up Preparation reduced the impact of time and environment and improved the overall score.

The categories of DP Control & Monitoring Systems and Main & Auxiliary Engines will require somewhat less resources due to increased levels of Planned Maintenance as well as the relatively higher amount of Lay-Up Preparation.

Of the five categories, Marine & Auxiliary Systems will require the least amount of resources as a result of the application of prescriptive levels of Planned Maintenance and Lay-Up Preparation.

###### **Interpreting Total Asset Score**

The Total Asset Score, in this example, serves as an overall evaluation of the asset and provides a general determination of the amount of resources needed for reactivation.

Reference the Sample Rubric in Appendix A, it would be of interest to note that the minimum score that could reasonably be expected – based on Duration of Lay-Up – would be in the vicinity of 10 to 11. The actual overall score of 9.9, however, is slightly lower. As a result of lower levels of Planned Maintenance and Lay-Up Preparation, the actual score reflects that of an asset that was laid up for a year or more instead of 200 days.

###### **Alternative Interpretations**

Similar to the Sample Rubric provided in Appendix A, this Example Assessment is provided as an example only. Numbers can be interpreted as needed but for this example provide a general overview of condition and operating status.

Numbers assigned to each cell may be replaced by approximate monetary amounts or time scales that better reflect the specific resources under consideration by the appropriate stakeholder.