The document describes the tasks for which the cameras in the ROV will be used. According to the required applications, the location and the type of cameras in the ROV will be decided.

**Tasks** **:-**

1. To view Robotic Arm.
2. Image Recognition.
3. To view Lift Bag and the debris, attachment of the engine from the hook.
4. To view Inductive Coupler in the OBS task.
5. To view LED light of OBS (LED turns from Red to Green).
6. OBS levelling.
7. Installing Turbine.
8. I-AMP task
9. Mooring Task.
10. Velocimeter Attachment,ADV.

Hence from the following tasks, it was concluded that :-

1. A single camera of the Highest Video quality would be used for the Image Recognition task.

This camera can also be possibly used for the mooring related tasks, by switching off the

the image recognition software. This camera can be installed just below the position of

the first thruster.

1. Another Camera would be used for viewing tasks performed by the Robotic Arm, installing

the turbines,etc. This camera can be installed just behind the positioning of the robotic arm.

1. Another Camera would be required for Viewing the Lift Bag, the inductive Coupler and the

the other tasks for the OBS tasks. This camera is to installed at the base of the ROV. This is because the lift bag would pop out of the base of the ROV and the inductive coupler for the OBS related tasks.

1. A camera would also be preferred to view the back side of the ROV.

**Final Conclusion :-**

So, from the above observations it can be said that a **minimum of 3 cameras** would be required in the ROV and a **maximum of 5 cameras** would be needed.

3 Cameras can be used if all 3 of them can provide yaw motion up-to 180 degrees. So that would mean a single camera would be used for the robotic arm, mooring tasks and in the image recognition tasks.

5 Cameras would be required if each camera is used for a separate task. One camera has been added which can have 360 degree view to take a look at the sides.

DOCUMENTATION CREATED WITH THE HELP OF RAVI AND ADITYA.

PS: THIS IS NOT THE FINAL SUBMISSION. FURTHER DISCUSSION IS REQUIRED.