

Government of India
Atomic Energy Regulatory Board
Radiological Safety Division

Sub: GUIDELINES FOR ABANDONMENT OF RADIOACTIVE SOURCE IN WELL

The incident of stuck of logging tool along with radiation sources is common in well logging practice. From radiation safety view point, it is the responsibility of the operating organization to retrieve the source from the well.

In case, the stuck sources could not be recovered from the well, your institution is advised to implement immediately the following steps for handling the emergency involving stuck radioactive sources in the oil well,

- (i) To seal the sources permanently and to immobilize them inside the oil well at stuck position, a cement plug of length at least 50 m with concrete of density 2.5 g/cm³ should be placed over the location where the source has got stuck.

- (ii) A permanent identification board or plaque should be displayed near the oil well bore indicating following information engraved on it,
 - a. the word “CAUTION”
 - b. the radioactive symbol
 - c. the date of abandonment
 - d. the name of the oil well owner/ operator
 - e. the well name and identification number
 - f. radionuclide and activity of the source on the date of incident
 - g. the source depth and depth to the top of the plug
 - h. an appropriate warning such as “abandoned well” or “do not drill below plug back depth” etc. in English, Hindi and regional language.

The board/plaque shall be long-lasting material such as metal or alloy of appropriate size e.g. 20 sq. cm area.

- (iii) No drilling should be undertaken at least 100 m above the level of abandonment. In case drilling operations is to be undertaken and continued at the same well, the lateral diversion of 15m between the old well and the new well should be maintained.

In case the stuck sources are retrieved, the sources shall be checked for radioactive contamination if any, and integrity shall be verified under supervision of radiation safety experts and RSO of your institution. The mud sample may also be analyzed for the presence of radioactive contamination, if any.

The Employer/Licensee should submit the compliance report on the implementation of above guidelines and the same needs to be uploaded/attached in the incident investigation report.