

<b>Type of Incident</b>	Damage/Loss – Explosion/Fire
<b>Key Issues</b>	Partial discharge causing flashover between two phases of 11kV cables
<b>INX Incident No</b>	120126
<b>Date &amp; Time</b>	Tuesday, 02 May 2023, 18:15hrs
<b>Location</b>	Ok Menga Hydro Power Station
<b>Injury</b>	Nil

**Insert Photo Here:**



## DESCRIPTION

On Tuesday 2nd May 2023 at 18:15:55pm Ok Menga Hydro Generator 2 (GH02) initiated a normal start-up by the shift operators, when a loud noise was heard, and the generator tripped and displayed a number of alarms. The resulted of the loud noise which has revealed an Arch Flash within its Auxiliary System for 11kV to 415Volts protection zone. The fault initiated within the 2113XF0A2 Auxiliary transformer enclosure that resulted in the flash over when the arc emissions came in contact with rubber mat on the floor which resulted in a fire and generation of smoke.

Emergency evacuation was initiated by the site supervisor and all personnel were evacuated to the master point. No harm was reported at the time.

## LESSONS

- SOP for start-up & PMs to be carried out effectively.
- Partial discharge (PD) not understood when the equipment was manufactured (1980 period of switch gear manufacturing).
- Carry out replacement strategy for all aging switch gears.
- Current PIP to address design issues

Title	Owner	Issued	Version	Last Reviewed	Next Reviewed	Page
OHS Standard 4-03 Form - HAZCOM	MGR Safety	31/03/2023	2.0	31/03/23	31.03.25	1 of 1

## ACTIONS

- Repair the identified items that have failed or become unserviceable due to the event and return the Unit 2 Generator back to operational state.
- Review the design of the Ok Menga upstream protection currently installed and where identified as required upgrade or implement protection in line with current electrical requirements & legislation. This will include switch gear replacement in the same approved AFE. This will be part of the Approved AFE for AC Upgrade under PIP (POWER IMPROVEMENT PROJECT)
- Communication and training / hazard awareness for operators & maintainers within all OTML operating power generation plants to include;
  - What is Potential discharge
  - Hazards of potential discharge
  - How to identify and what action is required when identified
- Review, update and finalise, Ok Menga Machine Start & Stop Procedure (SOP). Once finalized document to be doc controlled and communicated to all operations personnel at Ok Menga Power Station.
- Ensure all Ok Menga operational plant is listed within the SAP maintenance database and has assigned scheduled planned maintenance activities as per OEM requirements and other third-party audits
- Repair all areas where vermin ingress into the cabinets and integral wiring areas of both Unit1 & Unit 2 generators
- Review third party “Ok Menga Alternator Inspection” report actions and implement where required / identified
- Repair and upgrade current CCTV capability to ensure all cameras are operational and that recording capability is active and time limit is adequate and in line with OTML ICT requirements.

## Maling Ambranga

Acting General Manager – Engineering Infrastructure & Projects.

Department:	Status:	Issued:	Page 1 of 1
Power Services	Approved	07/05/2023	Business Confidential

Title	Owner	Issued	Version	Last Reviewed	Next Reviewed	Page
OHS Standard 4-03 Form - HAZCOM	MGR Safety	31/03/2023	2.0	31/03/23	31.03.25	1 of 1