

Maintaining Nuclear Safety of Research Reactors During a Pandemic

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Covid-19 Regulations

Following the directive from President (23 March 2020) for a 21-day national shutdown into a level 5 lock down status.

- **SAFARI-1 Nuclear Research Reactor is as declared as an essential in terms of Section 71 of the Labour Act, 66 f 1995. The essential Service Committee have also designated the following service as essential:**
 - ▶ **Services rendered at the SAFARI-1 research Reactor. Labour Court Ruling Case No: ES 83, dated 25 January 2018.**
- **Disaster Management Act and Regulations and Department of Employment and Labour Workplace Preparedness: COVID-19 (SARS-CoV-19 virus)**
- **All Necsa facilities with the exception of identified essential services must be shut down as from midnight 26 March 2020 and will remain in place or as otherwise directed by National Government and EXE Necsa management.**
- **Necsa has to developed action plans to be implemented in order to ensure the safe and secure operations of the facilities in compliance with the NNR license conditions as well as the Occupational Health and Safety Act 185 of 1993.**
- **PPE control measures, cleaning and sanitization, also after a Confirmed / Suspected COVID-19 Case.**

Necsa Control Measures

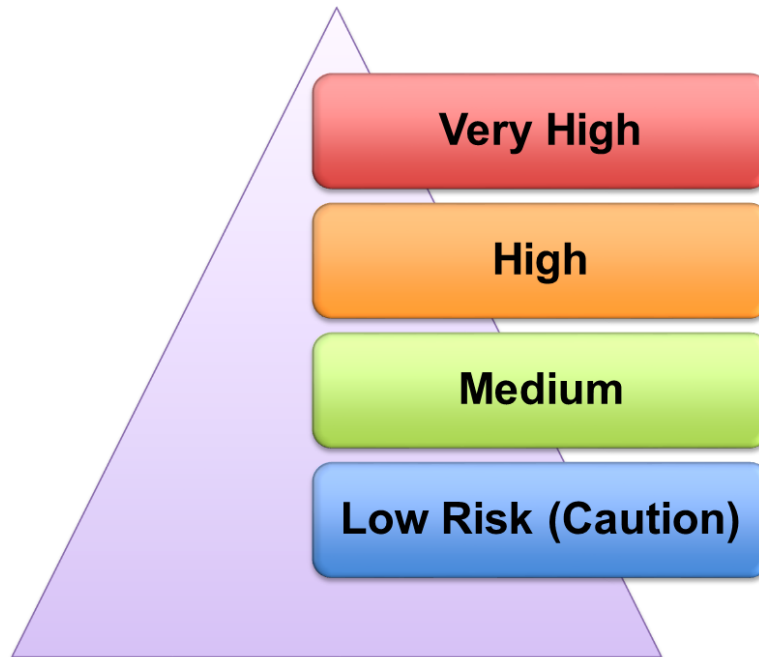
Necsa and SAFARI-1 Management has implemented the following mitigation action with immediate effect:

- **All national and international travel was suspended and those that has travelled in two weeks before must report to medical station.**
- **Permits to be issued for essential and critical staff identified to travel to and from work as per national regulations.**
- **Necsa employees gate access only with a valid permit, and all visitors to Necsa site was suspended and meetings to be on electronic media.**
- **Covid-19 training to all employees and those who remain on site need to report symptoms immediately.**
- **Non essential employees and vulnerable employees to work form home.**
- **Disaster management committees took charge of all Necsa arrangements and develop a disaster management plan and report to EXCO.**
- **Between 25% and 50% staff on site and or in a facility where possible. (Operational and maintenance staff during shutdowns)**

QHSE PLAN TO MITIGATE RISK OF EXPOSURE TO COVID-19

- **RESPONSIBILITIES**
- **RISK ASSESSMENT**
- **COMMUNICATION**
- **TRAINING AND AWARENESS**
- **MEETINGS AND GATHERINGS**
- **SITE ACCESS**
- **PERSONAL PROTECTIVE EQUIPMENT AND FACILITIES**
- **HOUSEKEEPING**
- **EMERGENCY RESPONSE**
- **MONITORING**
- **REPORTING AND FOLLOW UP – When is it and event to be registered**
- **RECORDS**

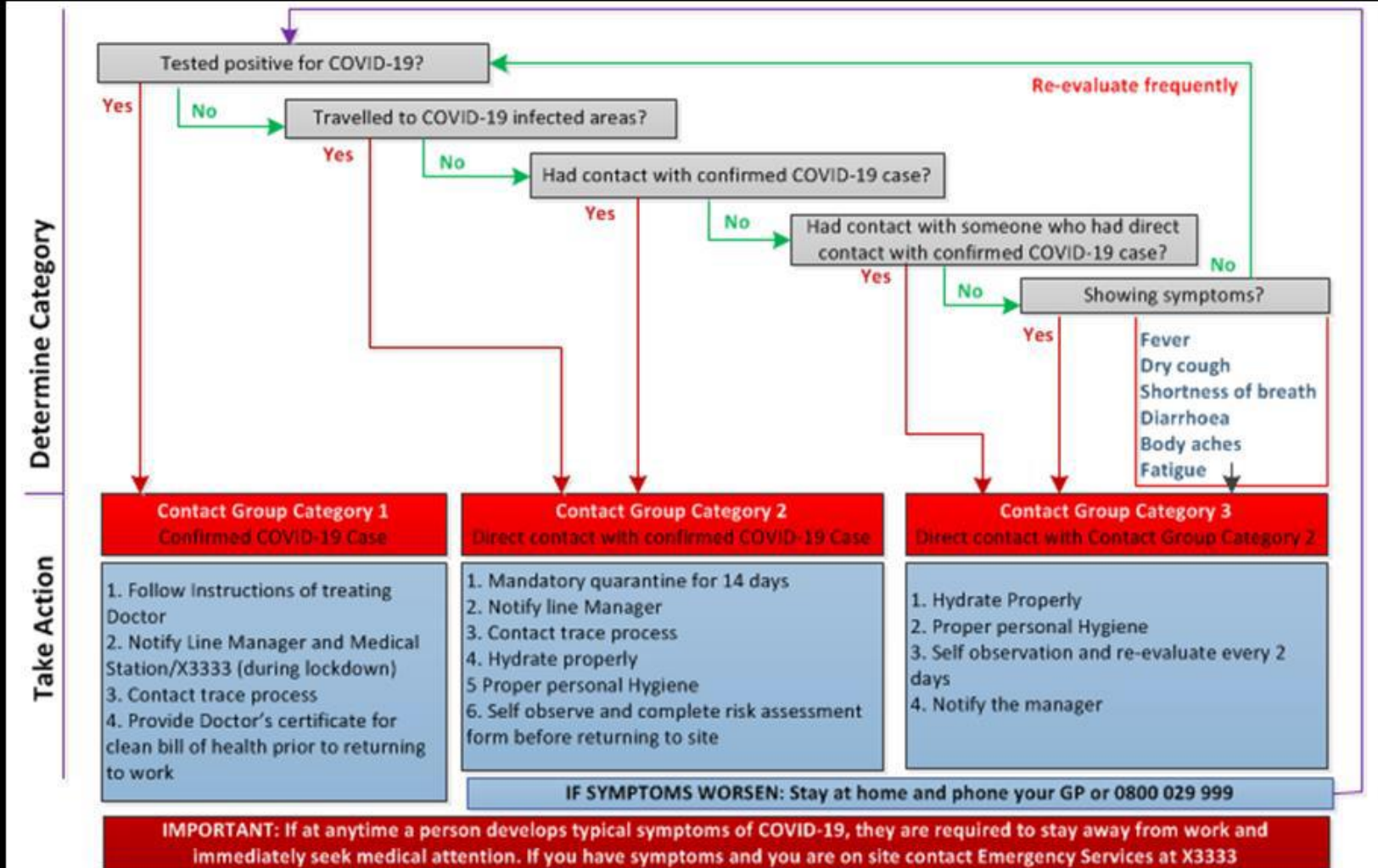
- All HIRAs and task risk assessments to be reviewed to include potential COVID-19 exposures
- Workers should be classified according to exposure profile in line with the Department of Labour classifications.
- These classifications are:



Hazard Identification Risk Assessment

- **The Hazard Identification Risk Assessment (HIRA) for SAFARI-1:**
 - ▶ HIRA summarizes the risks of workers contracting Covid-19 during routine work activities.
 - ▶ Areas of concern are highlighted and guidance provided to facility management in the implementation of additional controls to ensure the health and safety of all workers.
- **Moderate risk ratings were assigned to personnel in regular contact with other workers.**
- **Effective controls are however in place to ensure the risks are mitigated effectively. These include the following:**
 - ▶ **Engineering control measures such as effective ventilation.**
 - ▶ **Administrative control measures such as training, and personal hygiene awareness training.**
 - ▶ **The use of suitable personal protective equipment and sterilization.**
- **Cognitive ergonomics were also assigned a moderate risk rating. Regular communication and information sharing from Necsa and SAFARI-1 will however mediate the mental stress and uncertainties workers experience.**
- **Recommendations are made to managers to ensure all effective controls are implemented and maintained.**
- **The workplace measures will be maintained in line with any Directives and Guidelines from the Department of Employment and Labour through Necsa processes.**

COVID 19 Decision Model



COMMUNICATION

- **The communication protocol between Regulator and Necsa/facilities will remain unchanged for lockdown.**
- **Necsa will continue to monitor the situation, developments and evaluate the measures implemented.**
- **Training continuously to all workers as lockdown levels changes including requirements.**
- **Regular communication through Corporate Communication & Stakeholder Relations shall be maintained to all staff members.**
- **General information shall be shared via the Necsa Corporate Communication Department email distribution (Necsa Wide) NECSA via intranet, cell phones, facility contact list, manager groups.**
- **Managers shall ensure that employees who do not have access to emails are informed of all communication distributed by email, Signposting, posters and electronic boards shall be used to publish information, relevant risk factors, protective behaviors and controls related to COVID-19.**
- **All visitors (Level 3 to level 1 only) to site shall be informed of the Necsa rules applicable for the control of exposure to COVID-19.**

SAFARI-1 PROCEDURES

1. Hygiene actions

- a. Wash your hand regularly, with soap/alcohol sanitiser.
- b. Check where you touch handrails, door handles, common work areas, etc.....
- c. Stay away from people at least 1.5 meter.
- d. Wear of masks.
- e. Access doors finger readers, handles, handrails to be washed/clean twice a day
- f. Cleaning of tearooms, common used work benches, lift, and bath rooms, to be cleaned regularly and try to do cleaning yourself.
- g. Cleaning of hand piece on phones for common use.
- h. When Sneezing move away from others.

2. Operational actions

- a. Control Room off limits for all except operational staff, list names for access.
- b. Essential service, **contingency plan** is applicable also for all operational situations.
- b. Essential service such as Operators, Maintenance, RPO, Necsa support Fire brigade, security medical staff required as per regulatory requirements
- c. Proof of essential service, Letters to authorities from Reactor management.
- d. Cleaning of work areas after shift, operating bench and tea room.
- e. Shifts stay at home (live a low risk) and training shift only as scheduled.

SAFARI-1 PROCEDURES

3. Medical surveillance

- a. If you feel the above symptoms phone you doctor and send a bring sick letter
- b. Thermal camera temperature measure ments at Foyer entrance
- c. Any symptoms report immediately to management
- d. Refer to Medical doctor for evaluation
- e. Isolation if possible persons with symptoms (10 days).

4. Meetings

- a. No more meetings for Wednesday awareness/safety sessions – electronic media
- b. Large meeting such as shutdown meeting to be limited to line management only
- c. Only essential small meetings, keep distance when sit down
- d. Security Measures - maintained
 - a. Turnstile to continue in use in the foyer and rest of building Optional actions selective and controlled.
 - b. Access to building confirmed by security.
 - c. Doors, rails and handles to be cleaned regularly.
 - d. Visitors will be authorised on case by case with access permit approval (Public and foreign visitors stopped until further notice).

To ensure a low exposure risk to workers and limit the presence of any asymptomatic workers on Necsa site the following is promoted in line with the Lockdown regulations:

- ▶ **Vulnerable groups return to work only to perform essential services.**
- ▶ **A phased approach to allow workers back on the Necsa site.**
- ▶ **Flexible working hours to ensure workers are only at work to perform essential duties.**
- ▶ **Work from home as far as possible.**
- ▶ **Rotation of staff to ensure essential support is available during working and after hours.**

- **Essential contractors and Service providers return to site from level 3.**
- **Emergency Plan and exercises vs Covid-19 control measures which one weigh the most – use mitigation control measure.**
- **Reporting Covid-19 exposure or symptoms Liability and Confidentiality.**

- What if being infected by the Covid-19 virus at work - is the employer liable? Unlikely, because it's usually hard to prove.
- If an employee suffers an injury on the job, such as slipping or falling, then the worker is often entitled to workers' compensation, which can cover certain medical care and lost wages.
- But with the coronavirus, it could be tough to determine exactly where someone contracted the virus, making it difficult to hold an employer responsible for medical costs. Generally, a worker must prove to the employer that the disease was caused by "conditions peculiar to the work" and there were no other opportunities for exposure – the employer therefore should rely on honesty from the worker.
- IMPORTANT:** Did the worker get exposure because of not adhering to COVID-19 regulations: wearing a mask, social distancing, hand sanitizing/hand wash?

VIOLATION OF CONFIDENTIALITY

- If an employer knew a co-worker contracted the virus but did not inform the rest of the staff right away, weren't they required to?
- Generally, yes. Companies have an obligation to warn those who may have come in contact with someone diagnosed with Covid-19, health authorities may also want the public to know.
- But it's highly unlikely a company would identify the employee in question by name. That could violate confidentiality requirements
- It is however, in some instances impossible to protect the name as it would hamper proper contact tracing.

**non-disclosure
agreement**

Challenges

- **Adapt to regulations within days to maintain safety requirements and operational schedules.**
- **Continuous arrangements for ongoing changes of lockdown regulations from level 5 to 1 to manage staff levels and operational/regulatory requirements.**
- **Administrative staff work from home vs operational staff.**
- **Maintain staff motivation and safety culture.**
- **Obtain services and equipment for operational and maintenance requirements.**
- **Support services such as Utilities, HR, Finance, licensing, transport, QHSE Audits.....**
- **Meeting and training in groups sessions difficult to adapt.**
- **Leave policies – as per regulation and Necsa policies.**

Conclusion

- **Operational status was maintained at 100% to schedule ~300 days /Y.**
- **Isolated cases of Covid-19 not effecting the operational or other groups.**
- **Closure of two areas isolated cases, sanitise/clean area or a wait period of 5 days.**
- **Continuously maintain awareness, training and information sessions.**
- **Still maintain low staff presence level 5&4 <30% level 3 to 1 <50%**
- **Personnel and plant safety first – emergency procedures always mandatory.**
- **SAFARI-1 adapt to maintain all regulatory, QHSE and security requirements.**



Questions?