PROTECT- deep dive with an electricity generating company: qualitative insights from site-based workers.

Prepared for
The PROTECT COVID-19 National Core Study on transmission and environment

PROTECT-01 (2023)
National Core Study Report

Prepared 2023

First published 2023

The PROTECT COVID-19 National Core Study on transmission and environment is a UK-wide research programme improving our understanding of how SARS-CoV-2 (the virus that causes COVID-19) is transmitted from person to person, and how this varies in different settings and environments. This improved understanding is enabling more effective measures to reduce transmission – saving lives and getting society back towards 'normal'.

The study forms part of the wider PROTECT National Core Study on COVID-19 transmission and sought to explore COVID-19 transmission within the nuclear energy company, EDF. The focus of the study was to explore worker's perceptions of EDFs response to the pandemic. The study findings demonstrated that a wide range of mitigation measures were implemented by EDF to control the transmission of COVID-19 in the workplace. The mitigations received mixed responses from workers. Additional findings related to: perceived prioritisation of COVID-19 over general safety; communication and support; inconsistencies and local level differences; speed of response/change; working from home; mental health challenges; behavioural factors and COVID-19 outside of the workplace.

This report and the research it describes were funded by the PROTECT COVID-19 National Core Study on transmission and environment, which is managed by the Health and Safety Executive (HSE) on behalf of HM Government. Its contents, including any opinions and/or conclusions expressed, are those of the authors alone and do not necessarily reflect UK Government or HSE policy.

PROTECT- deep dive with an electricity generating company: qualitative insights from site-based workers.

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Acknowledgements:

With grateful thanks to all those at EDF who willingly gave their time, views and perspectives to enable us to capture their experiences.

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KEY MESSAGES

- There were nine mitigation measures identified by EDF workers during discussions: social distancing; testing; vaccinations; cleaning regimes; shift changes; Perspex screens; one way system; ventilation; and Personal Protective Equipment (PPE) and facemasks.
- Social distancing was generally deemed an effective measure, with visual/environmental prompts said to help (e.g., floor markings, signage changes to office space and floor plan). However, there were unintended consequences e.g., email hand overs difficult.
- Workers reported that tests were readily available to them such as Lateral Flow Tests (LFTs), off-site Polymerase Chain Reaction (PCR) testing available and Loop-mediated isothermal Amplification (LAMP) testing. However, a few negatives of testing were identified such as some workers 'milking' the system, and temperature checks reported to not be taken seriously by managers at times which caused frustration.
- Positives of vaccinations included paid time off for both doses and a vaccination bus on site for boosters. However, there was a reluctance to report vaccine status amongst some workers.
- Cleaning regimes were often cited as effective, with cleaning products made available to staff.
- Shift changes included working condensed hours and worker bubbles. Perceived effectiveness of shift changes varied, with negatives being cited around communication challenges and feelings of frustration/unfairness.
- Perspex screens were viewed by many workers as unnecessary and of little use by some (social distancing and masks perceived as more effective). However, some workers saw screens as effective between office workers and for click and collect services used by vulnerable.
- The one-way system was perceived as effective by some workers. Other workers however took it too seriously (individuals making barriers to enforce it), found it counter-intuitive (took longer and had to enter areas they otherwise wouldn’t need to).
- Ventilation was only cited by a small number of workers, and was not felt to be adequate in office spaces.
- PPE such as sanitiser and packs of facemasks, were made available to workers.
- Workers perceived that EDF prioritised COVID-19 over general safety at times. For example, the use of facemasks remained mandatory within turbine halls despite many workers reporting safety glasses to steam up.
- Feedback regarding communication and support was mixed, in particular around the timing of communication of information. Communication was perceived as effective, clear and personalised.
- The COVID-19 hub was specifically mentioned as effective in enhancing uptake and the impact of mitigation measures and the pandemic response plan was also identified by several workers during discussion as a positive measure.
- Inconsistencies and local level differences were identified by workers to be a source of frustration. This included differences in rules between Sites and differences between contractors and EDF employed staff.
- There was a mix of positive and negative responses regarding the speed of response of COVID-19 measures. A prompt initial response was identified, however frustrations were cited regarding delays in updating organisational measures

following changes to government guidance and restrictions or conversely the speed at which restrictions were lifted.

- Positives were cited regarding working from home such as fast/efficient role out of laptops, online meetings, increased flexibility, and better productivity. However, negatives were identified such as isolation of workers, working longer hours, blurred work/life, and practical challenges (e.g., space at home).
- Mental health challenges such as anxiety related to COVID-19 and increased workload were frequently cited by EDF workers.
- Workers reported that colleagues' behaviour impacted their compliance with mitigation measures e.g., not wearing face coverings. It was identified that it was difficult to encourage certain workers to follow COVID-19 rules.
- Some workers voiced concerns over COVID-19 rates in the community and the risk of becoming infected outside of the workplace and transmitting the virus to their co-workers. It was also identified that at times, there were strict company expectations for workers behaviour outside of the workplace.

EXECUTIVE SUMMARY

The study forms part of the wider PROTECT National Core Study on COVID-19 transmission and sought to explore COVID-19 transmission within the nuclear energy company, EDF. The focus of the study was to explore worker's perceptions of EDFs response to the pandemic. Consultation with energy sector workers was conducted at Heysham Nuclear Power Station over four days to explore this focus. Site based workers shared their thoughts and experiences by sharing them with researchers through conversation or writing them on flip charts. Additionally, the presence of a 'live scribe' allowed the development of a contemporaneous graphical representation.

The study findings demonstrated that a wide range of mitigation measures were implemented by EDF to control the transmission of COVID-19 in the workplace. These measures included: social distancing; testing; vaccinations; cleaning regimes; shift changes; Perspex screens; one way system; ventilation; and Personal Protective Equipment (PPE) and facemasks. The mitigations received mixed responses from workers. Additional findings related to: perceived prioritisation of COVID-19 over general safety; communication and support; inconsistencies and local level differences; speed of response/change; working from home; mental health challenges; behavioural factors and COVID-19 outside of the workplace.

Free text from the online survey conducted as part of the wider research (Task 3) was analysed. Working from home, cleaning and social distancing were identified as the most effective measures in preventing the transmission of COVID-19 at the time. Reasons stated for likelihood of catching COVID-19 at that time focused on factors outside the workplace e.g., visiting the supermarket or mixing with friends and family.

Several workers made suggestions for future health emergencies, examples of these included: better communication regarding freely available tests & validating test results; not asking workers about vaccination status; maintaining support for worker mental health/anxiety; and aligning speed of response to changes outside of workplace. Researchers also made some recommendations which centred around six core areas: consistency and transparency of information; speed of updating mitigation measures (communications); risk-based decision making (communication); core working hours for remote/hybrid workers; monitoring worker wellbeing and signposting to support; and extending support to enable compliance amongst contract partners (policies/practices/provision).

Overall, EDF took extensive measures and invested considerable money and resource into keeping their workers safe and nuclear sites running throughout the pandemic. The findings suggested that mitigation measures such as cleaning regimes, social distancing, access to PPE, testing and vaccinations were generally well received and praised by most EDF workers across both sites of focus, which helped limit the spread of the virus. It may now be possible to develop a more collaborative approach to a future pandemic / health emergency, where worker's individual needs/views are better considered as part of the company's risk assessments and decision-making processes.

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ACRONYMS

Acronym	Full description
COVID-19	Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)
EDF	Electricity generation company with whom the present study was conducted
HSE	Health and Safety Executive
IOM	Institute of Occupational Medicine
LFT	Lateral Flow Test
LAMP	Loop-mediated isothermal Amplification
LSHTM	London School of Hygiene and tropical Medicine
NCS	National Core Study
NHS	National Health Service
PCR	Polymerase Chain Reaction
PHE	Public Health England
PPE	Personal Protective Equipment
PROTECT	Partnership for Research in Occupational, Transport and Environmental COVID-19 Transmission
SMT	Senior Management Team
UoM	University of Manchester
WHO	World Health Organisation
WFH	Work From Home

1. INTRODUCTION AND BACKGROUND

1.1. WHY WAS THE WORK CARRIED OUT?

The PROTECT National Core Study on COVID-19 transmission and the environment is a collaborative UK focused research project conducted by researchers from a number of academic and government institutions across the UK. The project explores COVID-19 transmission within the nuclear energy company, EDF, and is funded by the UK Government and co-ordinated by the Health and Safety Executive. This report summarises the findings from Task 1, a review of risk reduction measures using qualitative site-based consultation with energy sector workers, conducted by the Institute of Occupational Medicine, The London School of Hygiene and Tropical Medicine and The University of Manchester. This is one of four tasks which form part of a bigger project using surveys, data sets and modelling (PROTECT researchers, forthcoming), as illustrated within Figure 1.

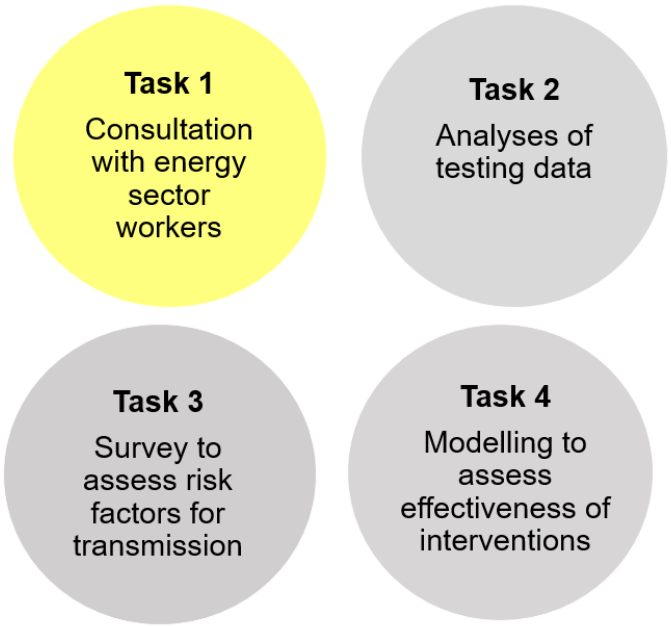

Figure 1-Visual of task

This work links to other ongoing research within the PROTECT project, including a researcher workshop (Canham et al, 2023) help in April 2022 and research looking across different work sectors, which includes the energy production sector (Coleman et al, 2023).

2. AIMS

The focus of the onsite consultation was to explore worker's perceptions of EDFs response to the pandemic: **how well did EDF do to keep workers safe and nuclear sites running?**

Through consultation with site-based workers, the following four discussion themes were used to prompt participant thinking and focus discussion:

- Control measures implemented to help reduce risk factors for COVID-19 transmission
- Barriers and enablers to implementing COVID-19 mitigations
- Impacts and unintended consequences to implementing COVID-19 mitigations
- Lessons learned in case of future variants and other health emergencies.

3. METHODS (QUALITATIVE DATA COLLECTION)

Consultation with energy sector workers was conducted at Heysham Nuclear Power Station. Discussions were conducted in the staff canteens over a four-day time period between 25th to 28th July 2022, between the hours of 10am to 2pm. Researchers spent two days at Heysham site One ('H1') (25th and 26th) and two days at Heysham site Two ('H2') (27th and 28th) respectively. Flip charts with key research questions regarding the COVID-19 mitigation measures put in place during the pandemic were positioned on tables in the canteen. These questions explored: the perceived most and least effective protective measures for preventing the spread of COVID-19; the impacts (both positive or negative) of protective measures implemented; things believed to help or hinder workers to implement the protective measures recommended/required; and suggestions/lessons learnt for the future.

Site-based workers were able to write down their thoughts, experiences or ideas on to the flip charts using marker pens provided, or alternatively they could choose to engage in discussion with one of the three researchers on hand each day who would then capture key points from the discussion onto the flip charts on their behalf, with more detailed notes recorded in researcher notebooks, including personal accounts/experiences recalled as examples. This was to ensure anonymity of these examples and enable their inclusion as appropriate within the subsequent analysis and reporting. Additionally, the presence of a 'live scribe' allowed the development of a contemporaneous graphical representation on a large piece of paper fixed to the wall centrally within the canteen. This served as an engagement tool and talking point with site-based staff, who were keen to see other's thoughts depicted and contribute their own views and presented a visual display of the emerging findings. A separate visual was created for each site (H1 and H2, see Annex 1: EDF site based visuals) to stimulate interaction and help identify potential differences between the sites.

Participation was open to workers directly employed by EDF and those employed by contractor partners, through opportunity sampling of passing footfall, with advertisement in advance across site, using a combination of study information sent via email, displayed on information screens around site (where available) and discussed in pre-work briefs with EDF supervisors. It was made clear that participation was voluntary and workers were informed that if they decided to take part, they would be providing their implied consent for the information shared to be used as a data source for analysis in relation to the project objectives. Participant Information sheets were made available prior to, and at the time of, data collection (See Annex 2: Participant information). All data was gathered anonymously with no personally identifiable information gathered from participants. This does however mean that the distribution of those consulted is unknown (e.g., age, gender, department, role, duration of experience on site, etc.). Ethical approval for this work was gained via Reading Independent Ethics Committee (IOM P783 PROTECT NCS, 15/7/22).

It is worth noting that chaperones for the research team and live scribe were close by at all times due to security requirements on both sites. This may have impacted at times on participant's willingness to engage in free and open discussion with the researchers and may have restricted participant contribution. It is also important to note that the findings within this report reflect the subjective experiences, opinions and perceptions of those that took part. The absence of information on a given topic across workers at one or both sites does not reflect positively or negatively, rather this was simply not discussed at the time of data collection. A diagram of the data collection process is displayed in Figure 2.

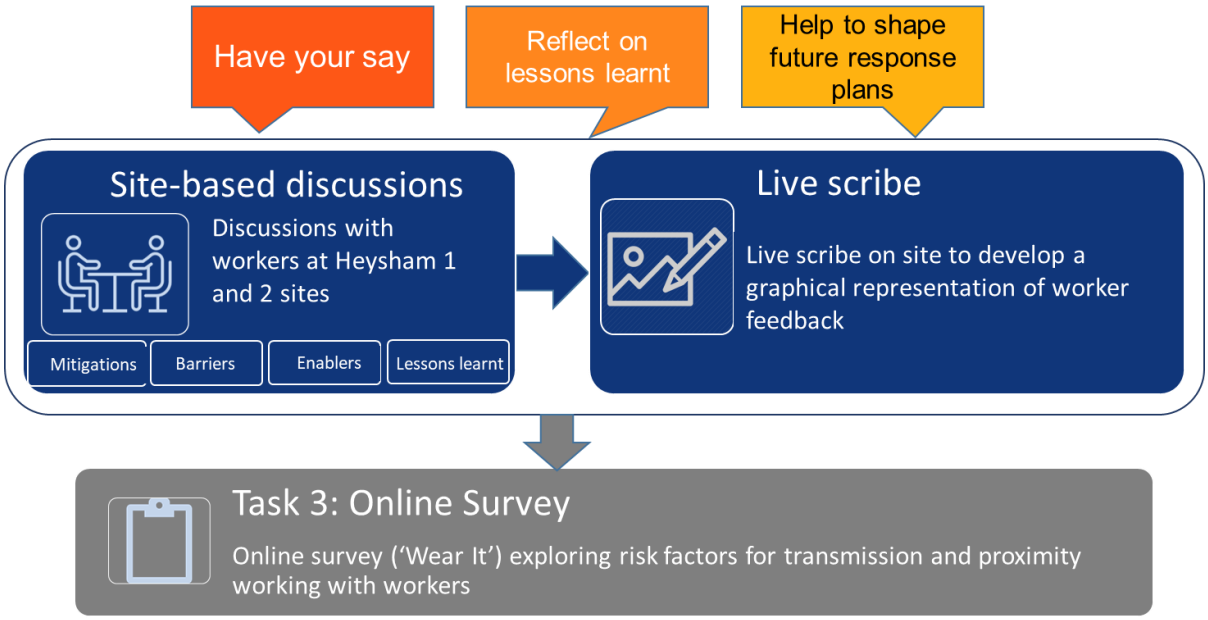

Figure 2-Research carried out with the nuclear energy company (onsite)

Data Analysis

Figure 3: Image of example data collection flip charts

Data collected on site (consisting of populated flip chart notes from workers, additional researcher notes taken during conversations and graphical representations from the live scribe) over the four days were analysed by the qualitative team, using emerging themes to group the data. Examples of data collection flip charts are displayed in Figure 3. We looked to identify common themes from the data emergent from the four broad discussion questions:

- Control measures implemented to help reduce risk factors for COVID-19 transmission,
- Barriers and enablers to implementing COVID-19 mitigations,
- Impacts and unintended consequences to implementing COVID-19 mitigation,
- Lessons learned and suggestions for doing things differently in case of future variants and other health emergencies.

Having participated in the data collection, the research team sense checked the themes identified together. This allowed them to make sense of the large amounts of data collected. The seven emergent themes are presented below in section 4.

4. RESEARCH FINDINGS

Drawing out findings by emergent themes rather than by each research question, helps to reduce repetition throughout the report and make the messages found clearer. Below we outline the most prominent themes to have emerged from the findings, these include:

- Mitigation measures,
- Communication and support,
- Working from home,
- Inconsistencies/ local level differences,
- Mental health,
- Behavioural factors,
- COVID-19 outside of the workplace.

Each of these are considered in the following sections of the report.

While most themes emerged across both H1 and H2, in the sections below we make explicit where findings are distinct between the sites. We also highlight the most prominent suggestions put forward by EDF workers (in response to one of the broad discussion questions cited above) relative to each of the themes. These are presented within the orange text boxes under the respective section that they relate to. Recommendations proposed by researchers are provided as a separate section (Section 6) within this report following the detailed findings. This is followed by a discussion, which includes: key findings, study limitations and considerations for future research (Section 0). Some images are presented throughout the report to reinforce the key points discussed. These images have been taken from the graphical representation created for each site (illustrated within Annex 1: EDF site based visuals). On occasions direct anonymised quotes (not attributed to individuals) are used to illustrate points made. These will be acknowledged by the use of italic text in quotation marks. Following analysis, key findings were reported and shared with the EDF Senior Management Team (SMT). A virtual meeting was held with EDF representatives across different functions and members of the PROTECT study team, who offered their reflections on the findings shared (section 4.2.1 onwards). EDF SMT were able to provide the business context to these findings by describing the organisations perspective, company process/procedures and intent of corporate messaging during the COVID-19 pandemic. This business context has been summarised below in order to provide this corporate context to readers of this report relative to the feedback and experiences shared by site based workers reported thereafter. Context regarding the government COVID-19 mitigations in England over the duration of the pandemic can be seen in Annex 3: COVID-19 timeline for England.

4.1. EDF POLICY, PROCESS AND COMMUNICATIONS REGARDING COVID-19.

4.1.1. ENABLING SOCIAL DISTANCING:

In order to facilitate higher footfall associated with a Statutory Outage[1], additional cabins were brought in to facilitate social distancing and support the return of 'plant touchers[2]' to a

[1] where the unit is shutdown, for approximately 60 days, and additional workers are required to perform maintenance essential to maintaining nuclear safety

[2] those working within operational areas and in contact with plant.

normal pattern of working. These were said to have been kept on site until after Government restrictions on social distancing were lifted.

A number of signs and banners were deployed in high footfall areas as visual reminders of social distancing, some of which used pictures of station staff within arrows to emphasise the intent, importance and need to do this.

Computers were relocated to enable social distancing within office spaces.

Any tasks deemed essential that required close proximity working were risk assessed to reduce exposure times, consider additional PPE and to identify any control measures to limit the chance of transmission between working parties.

4.1.2. FACILITATING WORKER TESTING

During Statutory outages at both sites, weekly testing was said to be mandatory for all resident staff. At other times, mandatory testing was introduced for a number of weeks at a time, during periods where the County and the local area was seeing high volumes of cases, or when the particular site was seeing higher rates of cases. This decision was made following discussions held with the Company Doctors during the frequently held site risk rating reviews. Additionally, individuals were tested before completing essential close contact activities such as emergency exercises or mandatory compliance training.

At various times during the pandemic mobile Loop-mediated isothermal Amplification (LAMP - a viral test requiring minimum lab facilities and less time to results than conventional Polymerase Chain Reaction (PCR) tests) testing was available on site to enable quick and accurate real-time testing. Senior management also cited the use of on-site rapid RANDOX testing, which allowed a result in 45 minutes. Double testing was used to ensure incubation periods were factored in, particularly where the reason for testing was contact with a positive case or symptomatic individual (either in the workplace or outside of work).

EDF confirmed that Lateral Flow Tests (LFTs) have always been provided to both staff and contract partner workers when they have requested them, for free. However, at times EDF had supply issues when LFTs were impossible to source locally and nationally. At the time of writing this report (November 2022), LFTs remained available on EDF sites for workers.

All in-house tests were conducted by trained staff and hence could not be “faked”. Where NHS tests were used, confirmation of results were checked by Line Managers to ensure validity e.g., texts and emails checked. An exception was the LFT tests however, as individuals were still required to report their positive LFT tests via the relevant NHS app, though these were not checked by line managers (a decision taken by EDF following legal advice). Categorisation of staff as group “A” or “B” contacts (see section 4.2.1.2 for further detail) was dependent on the clarity over the level of contact that had occurred in the 48 hours prior to symptoms emerging. To help with this, contact tracing books were established so that individuals could record any Public Health England (PHE) defined close contact they had with others. Where the track and trace conducted was not clear (i.e., different recollections), individuals were conservatively categorised as A list contacts. There was acknowledged to be delays at points in workers receiving LFT test results due to the turnaround time for National Health Service (NHS) testing (taking three or four days to return results), so a blend of PCR, LAMPs and RANDOX testing was being used by EDF to attempt to mitigate the national capacity issues.

EDF also has a temperature monitoring procedure in place. This involved passing through the infrared thermal cameras established at entry points to sites. If they triggered an alarm,

further temperature checks were conducted using ear thermometers to allow for a more accurate reading. Alarms were also monitored to check compliance (pictures of individuals were captured and logged when the machines identified a high temperature), along with a logbook to confirm the secondary reading had taken place. The senior management team acknowledged the low validity of these infrared thermal cameras, however explained that they were installed with the objective of deterring anyone who may have a temperature from trying to access site.

The potential for individuals, in particular contract partners, attending the workplace with symptoms/or having tested positive for COVID-19 was said to be beyond EDF's control. The individual terms and conditions for employees working for contract partner organisations are not set or negotiated by EDF.

4.1.3. VACCINATIONS AND RELATED INFORMATION

Workers were reportedly encouraged to volunteer information about their vaccination status. Providing vaccination information was voluntary and the reason for requesting this information was to inform critical decision making about the level of control measures required and the site risk status. If individuals did not wish to share such information, they were said to be under no obligation to do so.

A COVID-19 vaccination bus was booked to attend site in order for critical workers to receive their vaccinations at the earliest possible time and to make this as easy and convenient for site-based workers to access their initial vaccination and boosters. The senior management team however asserted that changes to the COVID-19 vaccine rules had not yet come into force at the time the vaccination bus visited site and hence, some employees in the 18-30 age bracket were unable to obtain their vaccinations via this route.

4.1.4. CLEANING REGIMES

EDF made cleaning products and personal issue hand sanitiser available to all staff during the pandemic. Furthermore, further enhanced cleaning was undertaken in contact areas where a worker was identified to have been symptomatic or tested positive for COVID-19. Additional staff who were brought in to supplement existing on-site cleaning teams conducted this enhanced cleaning and were deployed to high footfall areas as well as completing additional cleaning routines.

4.1.5. PERSPEX SCREENS

EDF provided Perspex screens at desks where facemasks could be removed to ensure individuals did not have to sit in masks for extended periods. They were also placed at counters to protect canteen workers and stores staff, a protective practice emergent from individual risk assessments and put in place to offer workers reassurance. Screens were also deployed in locations where social distancing was identified to be more challenging due to space constraints.

4.1.6. VENTILATION

Workers were advised by EDF to open windows/doors in order to naturally ventilate indoor spaces where ventilation systems were otherwise set to “recirculate”. This was said to be in accordance with government COVID secure guidelines at the time.

4.1.7. PERSONAL PROTECTIVE EQUIPMENT (PPE) AND FACEMASKS[3]

Workers were advised to change their masks every four hours as a minimum or when they were “damp, dirty or damaged”, with sufficient stocks and supplies provided to facilitate this (Figure 4). EDF acknowledged that the wearing of masks often caused workers safety glasses to steam and provided wipes and sprays to help combat this problem. In addition, nose clips, different designs of safety glasses and visors were trailed. Following changes to government guidance that no longer mandated the wearing of masks, EDF chose to update their policy to make it mandatory only when close contact work was undertaken but otherwise recommended mask wearing more generally.

Figure 4-Image of PPE availability

Senior management explained that there was a derogation procedure established to allow conventional, nuclear and COVID-19 risks to be balanced. Where close contact could be avoided, permission to remove masks was granted.

EDF produced communications campaigns, in written and video form. These were said to feature wording from the World Health Organisation (WHO), Company Doctors and the NHS to explain the purpose of masks in using consistent and familiar language (styles).

4.1.8. COMMUNICATION AND SUPPORT

Due to the frequency of changing guidance (sometimes daily) being issued by the UK government, EDF ensured corporate communications were issued to prevent confusion amongst their workforce. At times, this was acknowledged to have resulted in very frequent communications being issued, often via email.

EDF operated site-specific COVID-19 hubs to ensure guidance and communications were relevant and appropriate to the workforce, infrastructure, nature of operations and risk profile at any given time. The senior management team acknowledged that this may have caused confusion for a small proportion of workers who were operating as part of a ‘joint site team’ (e.g. Security) or indeed workers who may have contacted the neighbouring sites COVID-19 hub in error when requesting advice/support. A conscious effort was reported by the business to align policies wherever the risk profile was the same. Both the COVID hub SharePoint page and intranet page housed all EDF COVID-19 information and remained live at the time of writing this report.

EDF sought to treat each individual fairly and consistently, but acknowledged that this meant different approaches were needed based on differences in workers personal circumstances. The business recognised that this may have been perceived unfairly by some as individuals personal circumstances aren’t always apparent to others.

[3] So as not to cause confusion or misrepresent the data provided by participants, we used the terminology cited by EDF workers during data collection, which in most cases was ‘facemasks’ as opposed to ‘face coverings’.

Senior management reported that workers were encouraged to maintain social distancing if socialising outside of work, particularly when rates were high on site and in the local community, in order to keep individuals safe and ensure operational resilience and business continuity.

4.1.9. RISK BASED DECISION MAKING

The senior management team adopted a risk-based approach to decision making, which was underpinned by five risk levels, and informed by site specific factors and assigned risk ratings for all vulnerable staff early in the pandemic. The business monitored background rates of the virus and varied the risk rating of each site with correlated controls required to protect staff and so far, as possible, maintain energy production. During the latter stages of the pandemic, EDF considered vaccination status of the population as a mitigation. The senior management team however acknowledged that workers may not have been aware of their risk-based approach to strategic and operational decision making.

4.2. WORKER PERCEPTIONS AND EXPERIENCES

4.2.1. MITIGATION MEASURES

4.2.1.1. SOCIAL DISTANCING

Social distancing was generally deemed an effective measure for preventing COVID-19 transmission by participants at both sites. Some workers believed that the environmental prompts, such as floor markings and signage illustrating how big a two-metre gap was, helped to make it easy for workers to socially distance. Workers also referred to **changes to the use of office spaces** (e.g. re-purposing the training suite to offer additional desk space to workers struggling to work from home) and **reconfiguring floor plans** to help with social distancing and ensuring a two-metre gap could be maintained between desks and canteen chairs and tables. Individuals commented that this made them feel safer and some stated that they would like to see this continued in the future. It was noted that working outdoors was encouraged when practical as this also made it easier to social distance and ensure air circulation. On both sites additional mess cabins (portable cabins) were said to have been put onto carparks to allow workers to take adequate breaks whilst also abiding by social distancing rules (Figure 5).

Figure 5: Image of portable cabins

Workers at both sites identified that some people would socially distance within the operational areas at work but then not do so in other parts of the site (e.g. the smokers shed), thereby undermining the protective benefit of the practice.

Some unintended consequences were identified from workers socially distancing. For example, email hand overs for jobs were said to be much more difficult than face-to-face. Furthermore, some computers were reportedly removed to encourage social distancing, but at the end of shifts it then took workers longer to enter logs because there were less computers to use. Some workers expressed frustration that this resulted in workers standing around together for longer (e.g. "*seven people waiting to use three computers*"), contrary to intention. Some workers felt that social distancing could be particularly challenging for certain teams, given that they often had to work together (e.g. lifting materials at the same

time), although others reported a realisation that many jobs did not necessitate close proximity working and indeed, in many cases they could allow for a two-metre gap between workers.

EDF workers suggested:

- ❖ Keep social distancing in place amongst certain areas of the site, where it is possible when community rates are considered high (e.g. office rooms).
- ❖ Be prepared to reintroduce measures (e.g. portable cabins on carparks, signage etc.) quickly should the need arise and reassure workers that this would happen.

4.2.1.2. TESTING

Testing was a common topic of discussion across both H1 and H2 sites, with both positive and negative sentiments expressed in both locations. **Weekly testing was reported to be mandatory at both sites** (Figure 6) at the height of the pandemic, although the business reported that weekly testing was only mandated during outages when there were lots of transient workers brought on site.

Figure 6-Image of mandatory COVID testing

Workers referred to the ease of accessing LFTs, which were said to be readily available and handed out to workers in packs. This was described by many as an effective measure as it allowed workers to quickly and easily test for COVID-19. Additionally, off-site PCR testing was available if workers had been in contact with someone with symptoms or having tested positive for COVID-19. In this instance workers reported that they would not be allowed back on site until they had received a negative PCR test. At various times during the pandemic mobile Loop-mediated isothermal Amplification (LAMP - a viral test requiring minimum lab facilities and less time to results than conventional Polymerase Chain Reaction (PCR) tests) testing was also available on site to enable quick and accurate real time testing. Workers generally considered testing to be effective mitigation measure and felt that the need to conduct LFT and PCR tests made staff members feel safer when coming into the workplace.

Figure 7-Image of 'pingdemic'

Some workers stated that the rules for testing were confusing at times and seemed to change frequently. For example, there were some workers who felt as though individuals were *"milking"* the system by faking positive COVID-19 tests or using the rules to their own advantage during the so called *"Pingdemic"* when proximity apps told individuals to isolate (e.g. so that they would receive time off of work - Figure 7). Different protocols were said to be in place for different forms and duration of contact with a positive case, defined by the business as follows:

- Group 'A' contact.
  - a) had face-to-face contact less than 1 metre apart from the person who has tested positive for any length of time;
  - b) had any contact less than 1 metre apart from the person who tested positive for 1 minute or longer; or
  - c) had been within 2 metres of the person who tested positive for more than 15 minutes.

- Group ‘B’ contact.
    - a) been in the same air space for a period of time;
    - b) where an available route of transmission exists (e.g. door handles as a shared contact point); or
    - c) at the discretion of the Occupational Health team.

There were some workers under the EDF test and trace system, thought they would be categorised as a group “A” contact and therefore would have to take a PCR test and isolate, yet were then told they were a group “B” contact and would not have to do this. This was said to have caused stress and extra workload for staff members and work groups. Conversely, others noted that **the possibility of individuals coming into work even if they had symptoms/tested positive for COVID-19 could also, at times, be high.** This was something raised by contract partners, some of whom reported that they do not receive sick pay if they needed to take time off to isolate (or as a close contact).

Temperature checks, set up on entry to the sites, also received mixed responses from workers at both sites. Many individuals did not think the temperature checks were an effective mitigation measure, either because not everyone who had COVID-19 would have a temperature, or because it was **not taken very seriously by some managers**. One such example shared was, if someone had a triggered the alarm on the thermal camera as having a temperature, they were reportedly sent back to their cars for a few minutes to *“cool down”* before being sent back again to try once more.

Furthermore, **temperature checks were said to cause frustration** as all staff were made to walk through the same building to ensure that they passed under the thermal camera. This meant that there was a large throughput of people in a small space and that entry to site took longer (Figure 8).

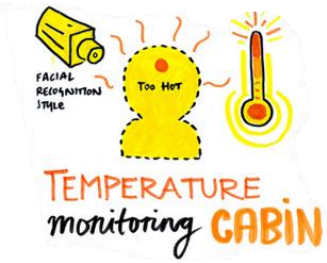

Figure 8- Image of temperature testing

EDF workers suggested:

- ❖ Communicate the availability of free LFTs to all workers should they wish to continue using them to test.
- ❖ Ensure testing is thoroughly checked/validated by the business if mandatory moving forward. This includes confirming positive test results, but also ensuring individuals test if they have symptoms and do not attend work if they test positive.

4.2.1.3. VACCINATIONS

Vaccination and booster uptake was reportedly encouraged by EDF with workers said to be given **paid time off to receive their first or second vaccination**. Workers at both sites said that a COVID bus was introduced to administer COVID vaccinations at work. This enabled easy and convenient access to COVID booster vaccinations (without requirement to travel, wait in long lines or try to book an NHS appointment). Some workers reported that this enabled them to receive vaccinations quicker than they may otherwise have been able to, based on NHS tiered priorities relative to age and vulnerability status. Workers were also asked to inform EDF of their vaccine status. This was said by individuals at both sites, to make people uncomfortable). Workers were reportedly reluctant to share this personal data with the business (i.e. it is their body and they should not have to tell work if got the vaccine

or not). Others reported feeling pressure to receive the vaccination (because of requests to disclose their vaccination status), rather than this being their personal choice.

EDF workers suggested:

- Do not ask workers for their vaccine status, as is considered invasive (*"too big brother").* Workers believed that they should have the freedom to do with their body as they pleased, without needing to inform their place of work.

4.2.1.4. CLEANING REGIMES

Figure 9- Image of cleaning regime

Cleaning regimes were often cited as an effective mitigation measure for the prevention of COVID-19, and generally received positive comments across both sites. Workers at H1 and H2 noted that cleaning was conducted often (Figure 9). **Cleaning products and personal issue hand sanitiser were reportedly issued to staff to enable cleaning of surfaces and equipment both at the start and end of shifts**. This offered double protection and ensured responsibility amongst all workers for the cleaning of their workstations, both for their own and their colleagues' protection. This was said to make workers feel safe, to improve general hygiene and prevent other illnesses (e.g. colds, flu). Some workers also noted that the deep cleaning was invoked should someone test positive for COVID-19 and this was also an effective mitigation measure, which **created a feeling of safety and reassurance for many participants.**

4.2.1.5. SHIFT CHANGES/TEAM CHANGES

Figure 10-Image of shift changes

Workers at H1 and H2 were said to have experienced various shift and team changes, including: working condensed hours (more hours across fewer days); and worker bubbles (grouping workers into smaller teams in order to limit interaction) to enable a reduced number of workers on-site at once (Figure 10). Perceptions on this as an effective mitigation measure varied, but most individuals who experienced shift changes expressed positivity toward this change and suggested that they preferred this to previous shifts. For example, the new shift patterns were said to give individuals more concentrated time to complete their work, making them more efficient and also meant more days off which provided better work-life balance.

EDF workers suggested:

- Apply consistency of expectation where possible across shift bubbles and working periods, (e.g., operational activity and breaks).

4.2.1.6. PERSPEX SCREENS

The use of Perspex screens was an emergent theme across H1 and H2 sites, see Figure 11). Some noted the use of Perspex screens between office workers was effective in limiting COVID-19 transmission. However, others disagreed stating they were unnecessary due to social distancing and face mask wearing already being in place and considered to suffice. Isolated individuals also perceived screens to be of little use, as workers separated by screens during work hours would then congregate/mix, at close proximity, in the kitchens, with no screens.

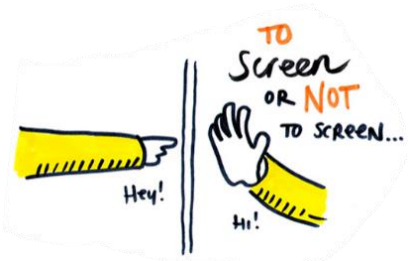

Figure 11-Image of Perspex screen

4.2.1.7. ONE-WAY SYSTEM

One-way systems (Figure 12) were cited to be effective by some workers at both sites who stated that it helped them to distance from others and was easy to use.

Figure 12-Image of one way system

Figure 13-Image of ventilation

4.2.1.8. VENTILATION

Ventilation (Figure 13) was not a prominent mitigation discussed, rather this was only cited by a very small number of workers (at both sites) during the data collection period. This mostly included the view that ventilation was inadequate in offices.

4.2.1.9. PERSONAL PROTECTIVE EQUIPMENT (PPE) AND FACEMASKS[4]

Participants at both sites reported that **PPE and facemasks were always made available to workers**, with hand sanitiser, wipes and packs of facemasks reportedly handed out to workers so they had a personal supply available if needed (Figure 14). Additionally, hand sanitiser stations were said to be positioned at various locations, but some commented that stations were often empty.

Figure 14-Image of PPE availability

[4] So as not to cause confusion or misrepresent the data provided by participants, we used the terminology cited by EDF workers during data collection, which in most cases was 'facemasks' as opposed to 'face coverings'.

Figure 15-Image of facemasks

Workers generally **supported the use of hand sanitiser and facemasks as effective measures to prevent the spread of COVID-19**. The use of facemasks at both sites was said to have been mandatory within some locations (examples cited included when entering the turnstiles, whilst working on the reactor and passing through corridors indoors on site), although this was not the case at the time of data collection. Many workers (at both sites) noted that facemasks during an eight-hour shift caused them to feel hot (particularly when working close to the reactor), and the face covering to become damp (Figure 15). Many workers at both sites reported that masks caused their safety glasses to steam up. Furthermore, it was noted was that when masks were worn in the turbine hall, workers had difficulty communicating with one another, as they could not lip-read. A small number of individuals believed that people did not really understand the purpose of facemasks so they had tried to educate them on the benefits to encourage them to wear a mask.

EDF workers suggested:

- Place hand sanitiser closer to high-touch points, particularly near the lifts on site and make sure they are regularly filled.

4.2.2. PERCEIVED PRIORITISATION OF COVID-19 OVER GENERAL SAFETY

Figure 16- Image of glasses steaming up from mask

A common theme reported by many of the individuals from both sites, was that **EDF seemed at times to prioritise COVID regulations over general site-based safety, particularly when practices were in conflict**. For example, the use facemasks remained mandatory within the turbine halls despite many workers reporting that they caused their safety glasses to steam up (Figure 16). Participants consequently felt as though this put them in a difficult situation, having to choose whether to take off their mask or glasses, as they could not safely use both at the same time. Some participants reported that EDF had tried to solve this problem by providing goggles instead of glasses (but not helpful for those with specific prescription glasses), anti-fog spray for glasses, mist spray and *"smuggles"* (additional parts that fit between eyes and goggles). Participants reported that these solutions were not wholly successful, some of whom felt that this challenge was never fully resolved and they reported being told to *"just wear eye protection",* although this was never *"official"* or issued as formal guidance. This made individuals feel as though the problem was, at times, ignored by the business and they were left responsible to make a personal judgement on the best course of action. In some cases facemasks reportedly became contaminated due to work being carried out, which added a risk to personnel. Some workers mentioned that wearing of facemasks could increase face touching, this could usefully be factored in alongside other risks when deciding which PPE is most appropriate and effective.

EDF workers suggested:

- Ensure consideration of general safety remains paramount when amending or introducing new practices in response to health emergencies e.g. COVID-19.

4.2.3. COMMUNICATION AND SUPPORT

4.2.3.1. TIMELY COMMUNICATION OF INFORMATION

Communication received mixed feedback from workers across the two sites. Some individuals described how EDF did not try and *"hide"* from COVID-19 unlike other businesses, and instead were open and honest about their mitigation measures, COVID-19 rates etc. In this sense, **EDF communication during the COVID-19 pandemic was perceived positively**, with workers citing prompt initiation of the business response to the pandemic that was seen to be effective, clear and personalised (Figure 17). The **COVID-19 hub** (see COVID-19 Hub) was **specifically mentioned as a good source for information** exchange between workers and senior team members regarding COVID-19 changes, mitigation measures and advice. Similarly, some staff felt that communication was frequent and updated regularly to keep up with the changes happening inside and outside of the workplace as the pandemic progressed. One individual even remarked that *"EDF workers had a much better understanding of the pandemic in comparison to the general population because of the business's transparent and regular communications".* This being said, other **workers reported challenges in keeping up with rapid changes to guidance**, often described as lagging behind government guidance and restrictions that applied to the local community (see Section 4.4.1). An example of these rule changes included the delay in removing regulations on facemasks at EDF, even though they were lifted by the government. The business reported that the outbreak management team sat daily to analyse numbers of new cases in each location. A risk rating was then applied to the site based on the number of cases in the surrounding community and, hence the delay in lifting COVID restrictions enabled time to implement risk-based decision making.

Figure 17-Image of communication

A number of workers at both sites said that, at times, communications (often sent via email) were too frequent, which made it difficult to find key messages which often got *"drowned out"* in the noise of multiple communications.

Some staff expressed **frustration over the speed and clarity of the organisational response to questions** posed by workers. For example, questions raised when people's work environments or personal circumstances did not reflect the majority or related to challenges experienced when trying to implement mitigation measures as requested/required by EDF. Some workers described often being told, *"we will get back to you",* but nobody ever did, or in some cases the manager responsible for approving changes or challenges under discussion, delayed decision making by not contributing to discussions as/when requested. This was said to create distrust between some workers and management, leaving these individuals feeling as though they were not being supported/listened to. A small number of participants also expressed a view that non-COVID related enquires were not being prioritised due to the business being overly focused on COVID-19 matters. It was suggested that this caused negative implications on certain individuals, whose opinions, suggestions and concerns were not being listened to.

EDF workers suggested:

- ❖ Ensure that all workers remain aware of current rules/requirements as these change over the course of the pandemic.
- ❖ Keep rules/requirements within the workplace as consistent with government guidance and requirements for outside of the workplace.

4.2.3.2. PROVISION OF SUPPORT

Workers at both sites described the **support available for vulnerable workers** which included allowing vulnerable workers to start work at a later stage in the pandemic, while also providing sick pay and "*keeping in touch"* packages for staff who had to isolate, to ensure they remained included in business communications. Support from EDF headquarters was also cited as a source of good support regarding COVID regulations and expectations.

Staff at both sites described the positive impact of being issued with 10 additional days of annual leave to assist those caring for relatives and young children when nurseries and schools were closed. In general, there seemed to be a perception amongst workers at both sites that **EDF were doing their best to keep workers and their families safe**. Furthermore, a *"click and collect"* service, was said to minimise direct contact between workers by allowing individuals to request supplies of items via email for contact-free collection within the site. The increase in Union membership, which has been maintained, was also believed to have increased worker protection for many individuals.

Workers acknowledged that during the pandemic EDF provided tailored support for workers individual needs, issues and concerns. Some workers expressed disappointment and reported feeling as though their individual needs were considered less as much as the business returned to normal operations (at the time of data collection).

EDF workers suggested:

- ❖ Maintain support for individual's needs, concerns and worries.
- ❖ Provide further support to ease anxiety for individuals returning to work after working from home.

4.2.3.3. COVID-19 HUB

Figure 18- Image of COVID hub

The **COVID hub was both a physical presence on each site but also operated a 24-hour hotline**, which could be accessed by staff at any time to get personalised help and support as required. It was also used by workers to notify the business should they test positive for COVID-19 (Figure 18)**.** The COVID hub was frequently mentioned by participants across both sites, mainly in a very positive light as something to have enhanced the uptake and impact of COVID-19 measures. In particular, the COVID hub was seen as a positive communication channel where staff could obtain up-to-date information about current guidance/

requirements as well as case rates (numbers of staff infected) at the site, local and national levels. The COVID hub was said to offer staff reassurance that the business was looking after them and their safety/wellbeing, as well as providing personalised advice to their individual circumstances and responding to questions they may have. The use of the COVID-19 hub map (described as a detailed flowchart of the current rules and advice for staff members) was also cited as a useful tool for many workers to stay updated with rapidly changing guidelines and regulations.

Conversely, some individuals shared less favourable opinions and experiences of the COVID hub, which existed as a separate provision for each site. Workers commented on a **lack of consistency in the COVID-19 guidelines and recommendations** being provided between the H1 and H2 COVID hubs, said to have caused confusion between workers who worked between both sites or had family members that worked on alternate sites. Some individuals recalled getting into trouble for following the rules/guidance provided by one hub over the other, which created further frustration. A small team of workers were said to support administration/delivery of the COVID hubs alongside their regular working role, some of whom described often having too much work. Some individuals believed that the COVID hub lead changed too often which caused a breakdown in communication and added to the confusion and one or two individuals perceived there to be too many people on the COVID committee.

EDF workers suggested:

- ❖ Keep messaging clear and consistent especially as rules change. Use the COVID-19 hub to communicate these changes.
- ❖ Increase team sizes or recruit further individuals to help with the increase in workload across COVID teams.
- ❖ Keep COVID Hub lead consistent to avoid any confusion and miscommunication.

4.2.4. PANDEMIC RESPONSE PLAN

A common theme of discussion amongst H1 and H2 (though less prominent) participants was the **pandemic response plan which EDF had in place prior to start of the COVID-19 pandemic**, in case of a public health emergency(Figure 20). Workers reported that this allowed mitigations to be put in place quickly and early on in the pandemic. EDF reportedly put sleeping arrangements, beds, canned foods and caterers in place in case the situation arose where workers needed to remain on-site to maintain site-based operations (Figure 19). The doctors / occupational health teams were said to have constantly reviewed the situation and helped to advise measures accordingly. A small number of participants described how business plans had since been revised based on available research and learning from the COVID-19 pandemic. It was said that EDF was exploring the feasibility of putting workers in local accommodation (room and board) with sole occupancy for essential site-based workers in the event of future emergencies. The business was reportedly donating provisions previously purchased to enable workers to sleep on-site, if needed, to local charities.

Figure 20-Image of pandemic response plan

Figure 19-Image of sleeping arrangements put in place

4.2.5. INCONSISTENCIES/LOCAL LEVEL DIFFERENCES

Figure 21 - image of local level differences

Workers described many inconsistencies and differences in how COVID-19 rules/policies were implemented within EDF. These included **differences in rules and expectations between H1 and H2**, for example in relation to when and where to wear facemasks. **Rules for managers were believed to differ from those in place for workers**. Participants noted that some managers were willing to break the rules (e.g. working between teams and outside of their *"work bubble"* (see mitigation measures section), whilst others needed workers to do things that involved breaking the rules, such as working more closely to one another than was permitted. An individual noted that some individuals in management allowed practices, which could have put other workers at risk (*"We weren't as important", "do as I say, not as I do*"). There were also said to be **differences in local manager's interpretation and implementation of policies and procedures** (Figure 21) which led to inconsistencies in practices between sites, departments, teams, EDF staff and contractors and different contract partners. When asked about the factors said to help or hinder the effectiveness of COVID-19 measures, workers from both sites often cited the management at EDF in response.

Figure 22 - Image of differences between contractors and EDF staff

Differences between contractors and EDF employed staff were regularly mentioned. This included access to sick pay in the event of COVID related absence (see section 4.3.1 Sick pay/financial support). Contractors were reportedly travelling together or sharing accommodation with contracting colleagues, although EDF employed staff were told not to do so by EDF (unless they lived together). This was concern this could increase the risk of COVID-19 transmission amongst contractors (Figure 22).

A number of workers suggested that the **changes made in response to the COVID-19 pandemic had caused division or perceptions of unfairness between different worker groups** (e.g. between *"plant touchers"* and *"back room staff"* or day workers and night workers). Some of the differences cited between the worker groups included work hours (total duration and flexibility), shift patterns, flexibility of their work environment (from home or on site), and annual leave entitlement.

EDF workers suggested:

- ❖ Keep COVID advice and rules consistent across sites, departments, teams and differently employed workers where possible.

4.2.5.1. SICK PAY/FINANCIAL SUPPORT

Figure 23-Image of lack of sick pay

Workers expressed positivity towards the rapid introduction of full sick pay for EDF employees, especially those who were classified as vulnerable and could not work at the start of the pandemic. The provision of sick pay was however, a prominent inconsistency identified between worker groups on site at EDF. **Staff directly employed by EDF were said to be financially compensated through the provision of sick pay in the event of COVID related absence, however this was not the case for all workers employed by EDF contract partners**. Site based workers at both sites described the lack of, or in some cases inconsistency of financial support provided to contractors as a source of frustration (Figure 23). This was also said to dissuade contractors from testing for COVID-19 or indeed believed to encourage them to falsify negative test results so they did not have to isolate or take time off unpaid.

Figure 24-Image of sick pay

There were reports of external factors that impacted the businesses resources. For example, high demand to see a GP during the height of the pandemic meant that many workers were signed off work with Fit notes for extended periods (e.g. one month), irrespective of the nature of their health problem/concern. Some workers were reportedly invited, on occasion, to return back to work earlier than the specified date in the Sick Note if they felt well enough to do so (Figure 24). This was to avoid unnecessary extended sickness absence amongst workers who felt fit and well to return, which would otherwise have resulted in further resource challenges to maintaining operation

Discussion also suggested that contractors were not given **access to free LFTs** (prior to LFTs being freely available in the community), unlike EDF employees. Senior leaders within the business however confirmed that all workers (staff and contractors) had access to LFTs, PCR and LAMP tests at the height of the pandemic, with LFTs still reportedly made available at the time of data collection. This was speculated to have negatively impacted the frequency of testing, hence increasing the potential risk of infection in the workplace. See more on testing in section 4.1.2 Testing.

EDF workers suggested:

- ❖ Consider providing adequate sick pay and self-isolation pay for all workers, including contract partners.
- ❖ Ensure all workers have the same access to free testing.

4.2.6. SPEED OF RESPONSE/PACE OF CHANGES TO COVID-19 RULES

Many participants at H1 and H2 expressed frustration with the way COVID-19 rules were put in place and updated by EDF, such as **delays in updating organisational measures following changes to government guidance and restrictions** or conversely the **speed at which restrictions were lifted**.

Some individuals within management roles explained that this delay was a conscious decision from the business to allow time to evaluate the impact of rule changes within the community before rolling these out with workers at H1 and H2 sites. Some workers, perceived this to be effective as it helped to provide an evidence base for the changes in

mitigations and meant that rules were not changing on a daily basis. However, more commonly, workers at both sites expressed frustration and confusion over this delay, some of whom perceived adverse impacts as a result, including a reduction in behavioural compliance, increased mental fatigue and difficulty recalling the rules and requirements.

In contrast, some participants (at both sites) felt that **EDF rules and mitigation were too reactive to the changes in government guidelines** (especially more recently with respect to lifting restrictions). Such individuals expressed the belief that EDF would have benefited from keeping measures in place for longer based on COVID-19 trends in the local community and amongst their workforce. Frustration was also expressed by those workers who helped to put the measures in place within EDF, only to have the government change the guidance, meaning they had to revise measures again, often within short timescales.

Some workers were keen to highlight the **differences in expectations at work when compared to daily life**, particularly with respect to the lifting of restrictions. Examples provided included: facemasks being mandated within EDF sites when they were no longer mandatory outside of work; the need to social distance when on site, while *"being able to go to a nightclub in one's own time"*. Others noted that they felt guilty for socialising outside of work and seeing family even when rules inside the workplace changed. This was said to be due to feeling a sense of responsibility towards EDF, their own work, and co-workers. They stated that by going out, they felt as though they were at higher risk of catching COVID, which could lead to absence from work, and then cause other work colleagues to have extra work.

EDF workers suggested:

- Avoid a 2/3 week delay in rule changes within EDF where possible, otherwise ensure good communication of why this is necessary.

4.2.7. WORKING FROM HOME

Working from home as a mitigation measure to reduce workforce transmission was a prominent topic of discussion across both sites with mixed views expressed. Participants described how EDF workers who could do their job from home did so in order to reduce footfall on site. Participants spoke about the **fast and efficient rollout of laptops** to large numbers of staff, set up to enable secure home working (Figure 25).

Figure 25: Image of IT provision

"Hybrid" working (a combination of home and site-based working) was said to have been actively encouraged amongst the workforce when restrictions were being lifted so not everyone returned to the workplace at once. This flexible approach to work was also said to have been retained at the time of data collection and was considered by many workers to be an effective measure in reducing the risk for COVID-19 transmission at EDF (Figure 26).

Figure 26-Image of working from home

Whilst many considered the roll-out of laptops to be swift, a small number of individuals noted that this **switch took too long** and that EDF's IT department struggled to source laptops due to increased demand across the country. This led to some workers needing to

use their own personal laptops for work initially. Furthermore, some workers stated that inadequate HR policies meant that getting people back to site-based working was delayed. That said, the majority of workers generally agreed that EDF are now well prepared and have the IT systems and infrastructure in place to revert back to full-time remote working amongst those who can, should there be another pandemic in the future.

Figure 27-Image of home working positives

EDF **workers cited a number of positives to home working**, including: reduced contact with other workers, prompting many to feel safer; increased flexibility and time at home to reflect on their work-life balance; online meetings (e.g. via Skype) said to save time over in-person meetings; better productivity and improved quality of work. Workers also noted that they were able to create a sense of community (Figure 27) while working remotely, by participating in virtual work events and meetings more often than they would in person. This was said to help reduce mental health worries for certain people, especially those who felt very nervous about the pandemic.

EDF **workers also cited a number of negatives to home working**, including: feeling lonely, isolated and disconnected from colleagues; perceptions of colleagues being lazier when working from home; difficulties organising meetings remotely; blurred lines between work and personal time (with some participants stating that they did not take breaks when at home and worked longer hours); difficulty getting in touch with remote workers at times (due to misalignment of flexible working hours between workers); difficulty identifying when worker morale was down; disconnect from colleagues; difficulty adjusting to/utilising new technology; challenges home working with other family members (e.g. due to limited space, having meetings/talking at the same time). (Figure 28).

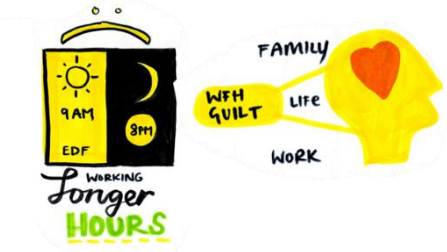

Figure 28-Image of working from home negatives

The potential for hybrid or home working amongst some but not all workers (e.g. 'plant touchers' – those working within operational areas and in contact with plant) was perceived to be unfair amongst some and said to cause division or resentment between different worker groups. Conversely, other participants suggested that home working put additional strain on site-based workers, who in some cases had been asked to perform additional site-based tasks on behalf of colleagues working from home. Furthermore, some participants suggested that **individuals working from home did not receive the same reduced working hours as workers who worked on site**, which caused long work hours and workload to increase between team members, especially when sickness levels also started to rise. Additionally, some workers expressed that there was lack of guidance and boundaries from EDF for those returning back to site after remote working.

EDF workers suggested:

- Consider increasing transparency of processes used to hold workers to account who work from to decrease tension between teams and ensure fair and equal distribution of workload
- Set clear boundaries and communicate expectations in the workplace while individuals transition between remote working to in-person working.
- Embrace any IT improvements, which come along in the near future as this could prepare EDF for the long term.
- Suitability of online training should be considered, dependent on the context, with a preference expressed to keep training sessions online to avoid being around lots of individuals where possible.

4.2.8. MENTAL HEALTH CHALLENGES

Figure 29-Image of increase in workload

Mental health was another theme to emerge from participant discussions across both sites. A number of workers (in particular at H2) stated that they felt **anxiety related to COVID-19**, such as: anxiety over moving towards home/hybrid working and conversely over returning back to *"normal";* when rules started to lift during the middle stages of the pandemic or transitioning towards the *"living with COVID"* phase where most, if not all measures were lifted. *"Anxiety could be linked to a perceived increased risk of infection from returning to site"*. Workers also reported an **increase in workload during the pandemic**. For example, due to: the need to integrate consideration for COVID-19 within policy, process and practice (and iterate these in line with guidance changes); changes to team sizes, working hours, shift patterns; increased absence rates due to sickness, isolation (as a case or contact) or caring responsibilities for the vulnerable or dependents. Anxiety coupled with increased workload was recognised by participants to increase workers stress levels and in some instances reportedly led to burnout (Figure 29).A number of participants at both sites believed that the **behaviour of colleagues influenced compliance with mitigation measures**. One such example provided by workers was that seeing others not wearing their facemasks properly (e.g. below their chin) was considered to undermine the value of everybody wearing them at work). Similarly, some workers noted that it was difficult to encourage certain workers to follow COVID-19 rules even within the workplace, particularly those who were younger and *"thought they were invincible*". Other individuals were said to question whether their efforts to follow the COVID rules both inside and outside of the workplace, along with personal sacrifices made were worthwhile.

4.2.9. COVID-19 OUTSIDE OF THE WORKPLACE

Some workers expressed concerns over **community rates of COVID-19 and the risk of becoming infected outside of the workplace** and transmitting the virus to co-workers on site at EDF. Workers spoke of how they could not control individuals in the local community, who may not test or be honest about their symptoms and hence, whilst they themselves could test for COVID-19 and be more cautious in their own behaviour, this could have hindered the impact of mitigation measures put in place by EDF. This was cited as a particular issue given the government's move towards the *"living with COVID"* phase, where

most or all mitigation measures have been lifted and people are more able and willing to socialise.

Workers at both sites described EDF as having quite **strict expectations for their workers, particularly in terms of their behaviour outside of the workplace**. Individuals stated that they would prefer to not be told what to do external to work and believed the business should trust them to do the right thing. One such example given by workers was being asked not to socialise outside of the workplace (i.e. going to pubs or other social settings) once restrictions started to lift in the community, but remained strict within the workplace. Some participants felt that telling workers what to/not to do outside of work was not an effective mitigation measure, but instead could cause feelings of stress, guilt and confusion (Figure 30). Some workers also noted that EDF issued guidance for workers personal time based on government guidelines at the time. While this was conducted to help avoid the spread of infection within EDF, some workers found it difficult to follow such COVID-19 guidelines when outside of the workplace.

Figure 30-Image of COVID-19 outside of the workplace

EDF workers suggested:

- ❖ Check in with workers to ensure communications are not misinterpreted.

5. QUALITATIVE ANALYSIS OF FREE TEXT SURVEY RESPONSES

As part of the wider work (Task 3, Figure 1 and PROTECT researchers, forthcoming), data was collected from workers via an online survey between July 25th to August 12th 2022. Data was available from 211 respondents. Two questions within the survey were included to provide additional insight to the qualitative site-based discussion with workers. Participants provided free-text responses to these questions, as follows:

- Which of the measures listed [within earlier question] do you believe to be **most effective** in preventing transmission of the COVID-19 virus currently? Why is this?
- How likely do you think it is that you will **catch COVID-19** currently [Likert scale response]? Why is this?

Free text responses to these questions were analysed thematically and dual coded up to three times where more than one reason was stated in the free text box for the Likert scale response/list of mitigations selected. Findings from this thematic coding is presented for each question along with cross-tabulations of this data with other demographic/contextual questions asked within the survey.

In order to maintain participant anonymity (in accordance with the ethical approval granted for the survey) we are unable to include any direct quotes from the data within our report of findings.

Likelihood of catching COVID

We restricted the analysis of reasons for likelihood of catching COVID-19 to those respondents who had indicated either a positive ('somewhat', 'very') or negative ('not at all',

'not very') likelihood of catching COVID-19; omitting those who were neutral ('neither likely nor unlikely') or who did not express an opinion (prefer not to say, don't know, blank response). Of the remaining 147 respondents, 13 did not provide any free text responses, leaving 134 free text responses for thematic analysis. Almost all free text (85%) was in relation to positive likelihood of catching COVID-19.

Reasons reported for likelihood perceptions were coded according to the nature of the reason described within the free text response. Where more than one reason was cited within the free text, responses were dual coded (using multiple codes) for the first three reasons cited. A summary of response categories coded and the frequency of each code relative to likelihood perceptions is presented within Table 1.

In many cases, free text responses were not explicitly focused on workplace transmission, but referred to socialising outside of work, visiting the supermarket or mixing with friends and family. Others were generic/non-specific in the context of their response. Only three response categories received n≥10 responses (cells shaded in Table 1), including:

- **High rates perceived** - e.g. reference to prevalence of COVID-19 in the local area, increasing rates of COVID-19 cases, knowing multiple people who had recently tested positive).
- **Implementation of COVID measures** - either positively as a reason for low perceived likelihood of transmission (e.g. respondents reporting continuation of hand washing), or more commonly, negatively as a reason for high perceived likelihood of transmission (e.g. little/no preventative measures being implemented).
- **Inevitability** – e.g. reference made to statistical likelihood, and returning to 'normal' life.

Reasons for likelihood	Frequency by level of likelihood Not at all n=5	Not very n=15	Somewhat n=84	Very n=30	TOTAL N=134
High rates perceived	0	1	39	9	49
Implementation of COVID-19 measures	0	7	27	10	44
Inevitability	0	0	12	5	17
Vaccinated	1	4	6	1	12
Had/recent positive test	1	3	4	3	11
Contact with others	0	0	4	4	8
Family set up (young children, partner)	0	0	6	1	7
Socialise in crowds	0	2	2	1	5
Mild symptoms	3	0	3	1	7
Multiple positive tests	1	0	6	0	7
Travel	0	0	4	2	6
Transmissible	0	0	4	2	6
Not caught COVID-19	1	1	2	1	5
Evolution of the virus	0	0	4	0	4
Living situation/accommodation	0	1	1	0	2
Strong antibodies	0	2	0	0	2
Endemic/Nothing being done	0	0	1	1	2
Speed of response	0	0	1	0	1
Ventilation	0	0	0	1	1
Cost of living crisis/financial pressures	0	0	0	1	1
Weakened immune system	0	0	0	1	1
Individual differences	0	0	0	0	0

Table 1-Frequencies of response categories codded for likelihood of catching COVID-19

Further analysis (cross tabulations) were conducted to look at the relationship between coded free text responses provided relative to likelihood of catching COVID-19 and other demographic/contextual questions asked within the survey. This further analysis was restricted to those reporting that they were 'somewhat' or 'very likely' to catch COVID-19 and where the total number of responses was 10 or more (cells shaded in Table 1). Cross tabulations conducted are illustrated within Figure 31.

Whilst there were differences in the distribution of the coded free text responses, none of the cross tabulations for free text related to likelihood of catching COVID-19 identified relationships that were statistically significant ($p<0.05$).

Most effective measures for preventing transmission of COVID-19

163 respondents provided response in response to this open-ended question on the most effective measures for preventing transmission of the COVID-19 virus. Free-text responses were coded by the project team into 20 categories. Where more than measure was cited, responses were dual coded for the first three measures cited within the response. A summary of response categories for effective measures coded and the frequency of each code is presented within Table 2.

Seven response categories received n>10 responses (cells shaded in Table 2). Nine respondents referred to the removal of mitigation measures within and outside of the workplace, with respondents reporting little or no preventative practices being conducted at the time of the survey. This may also have influenced participant responses, leaning more towards measures and practices that may still be easily implemented by workers – e.g. the continuation of remote/hybrid working amongst many EDF workers and the relative ease and personal control that individuals have over enhanced cleaning of their workstations and hand hygiene as well as proximity to others (social distancing).

Effective measures	**Frequency**
Working From Home (WFH)	56
Cleaning/sanitising	40
Social distancing	36
Testing	24
Online meetings (Skype)	21
Masks	10
Remain away from workplace when unwell	10
Bubbles/cohorts	9
None	9
Vaccination	6
Contact tracing	6
Ventilation	5
Mess rooms	5
Multiple non-specific	3
Thermal cameras	2
One way systems	1
Car sharing	1
COVID knowledge hub	1
Wedge doors to minimise touching	1
Other	1

Table 2- Frequencies of response categories codded for effective measures for preventing transmission

Further analyses (cross tabulations) were conducted to look at the relationship between coded free text responses provided relative to effective COVID-19 and other demographic/contextual questions asked within the survey. This further analysis was restricted to the seven response categories discussed above and shaded within Table 2. Cross tabulations conducted are illustrated within Figure 31.

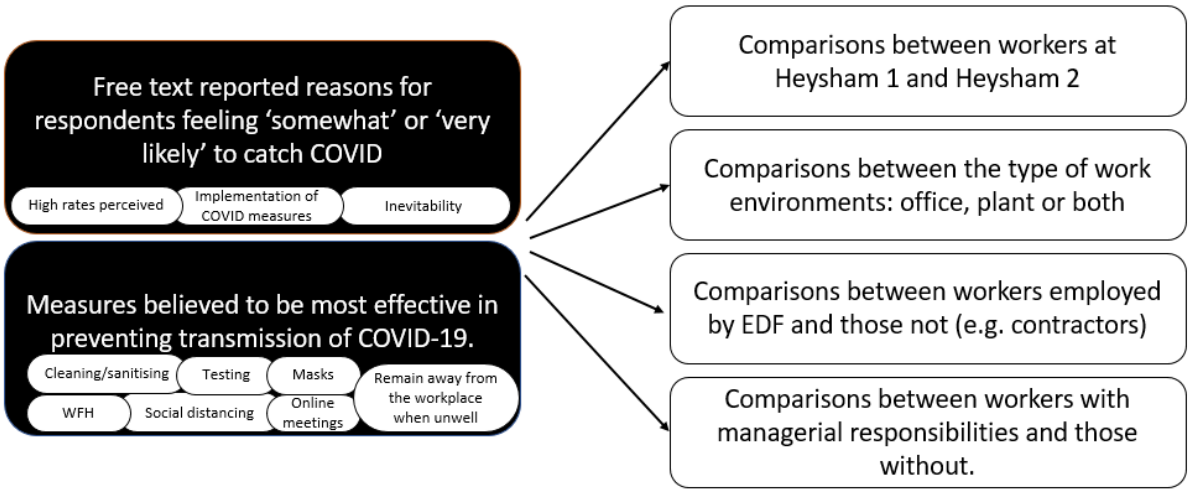

Figure 31-Illustration of cross tabulations conducted for likelihood of catching COVID-19

Whilst there were differences in the distribution of the coded free text responses, only four results were found to be statistically significant ($p<0.05$). These were:

Significant differences ($p=0.03$) in the number of respondents citing testing as an effective mitigation measure between Heysham sites one (n=17) and two (n=7) respectively. This may reflect differences in practices, provision or prioritisation of testing between the two sites.

Significant differences ($p=0.03$) in the number of respondents citing online meetings as an effective mitigation measure between workers based within an office environment, (n=21) compared within those working on plant or in combined settings (n=0 respectively for both). This may be due to the requirement for 'plant touchers' to be site based and more likely to be in contact with other workers of the course of other daily duties outside of meetings.

Significant differences in the number of respondents citing WFH or cleaning/sanitising ($p=0.07$) as an effective mitigation measure when comparing those with management responsibilities. For this analysis, responses from those reporting that they were a 'Manager' or 'Supervisor' (of plant or people) were combined.

Those without management responsibilities were significantly ($p=0.01$) more likely to cite WFH as an effective measure. This stands to reason given managers may have additional duties that make it more challenging for them to WFH.

Those with management responsibilities were more likely to report cleaning and sanitising as an effective measure.

6. RESEARCHER RECOMMENDATIONS

Drawing on the key findings from site-based discussions with workers at both sites, Task 1 researchers propose recommendations for EDF's consideration in preparation for a potential rise in COVID-19 rates or future health emergency. These recommendations are offered in addition to suggestions provided directly by the workers at the time of the site-based discussions (presented within orange text boxes throughout Section 4 of this report).

6.1. CONSISTENCY AND TRANSPARENCY OF COMMUNICATION

Some workers noted that mitigation measures and behavioural expectations regarding COVID-19 rules differed between sites, managers and teams, causing confusion. This was particularly noted amongst those working, or with personal connections, at both sites (see section 4.2.5). **Researchers therefore recommend that, where possible, EDF align mitigation measures and behavioural expectations across different work sites and ensure that these are communicated clearly and consistently**.

In some cases (e.g. differences in infrastructure/work environment, operations and processes), there may be a need to tailor requirements and expectations to the site or team. In such instances, **it is recommended that EDF maintain central oversight of where differences to these standard practices are required to avoid unnecessary local level interpretations of requirements** (which may otherwise cause unnecessary confusion) and over time, reflect on whether changes to core guidance and expectations would be beneficial. It will also be important to **communicate the reasoning behind any exceptions to core guidance** amongst applicable workers. Enhancing transparency and communication of EDF's risk-based decision-making approach (see section 6.3 risk-based decision making) may help workers to understand the rationale for corporate decisions being made and the timing and direction of policy/process changes.

The COVID Hub was cited as a positive channel for exchanging COVID-19-related information by many workers. Some workers noted however that it was difficult to keep track of updates/changes through the email system, as specific messages often went unnoticed or got lost in chains of other emails. Others described confusion about knowing who to contact if they had questions, as the COVID Hub lead was said to change often (see section 4.2.3.3), or indeed challenges in identifying the contact details to phone into the COVID hub as and when needed. **Researchers recommend hosting the COVID hub in a central location (e.g. EDF intranet) with reinforcement of key contact information on all related communications.** Additional channels, such as email or COVID coaches can be used to prompt staff of changes /updates made to COVID hub content, without the reliance of this as the only available source of the information contained within. This could help workers to easily and consistently access any updates/changes, and answer any queries on a single platform, without having to search for past emails.

6.2. DELAYS TO EDF UPDATING MITIGATION MEASURES

One predominant finding from the site-based discussions with workers was frustration and confusion over EDF's delay in implementing changes to measures and guidance updated by the government (e.g. a two-week delay in lifting mask use on site when this was no longer mandatory within the local community, see section 4.2.6). **Researchers recommend that the reason for this two-week lag time should be clearly communicated to staff relative to the potential benefits to doing so for them as individuals, their colleagues and the wider organisation**. This will help align with individual and team motivators to positively impact behaviour and alleviate frustration amongst workers by understanding the reasons for this 2/3 week lag time.

6.3. RISK-BASED DECISION MAKING

A number of workers expressed dislike for the blanket approach applied to COVID-19 rules and mitigations, stating that they would like the freedom to make their own decisions where appropriate, and also that in some circumstances the requirements were considered to make no sense. One such example was the requirement to wear a face mask when passing through a turnstile outside and on their own (see section 4.2.1.9). **Researchers recommend**

that EDF consider how they might more clearly communicate the rationale and risk-based approach taken to inform their COVID-19 decision making. This involves educating workers about the risk considerations for COVID-19 transmission so that they are able to evaluate the situation and adapt their behaviour to the risk profile and environment. For example, the risks of not wearing a facemask in a densely populated, indoor space is heightened compared to being in an outdoor area on their own. With training and formalised corporate arrangements, EDF workers could make their own risk-based decisions. These would be underpinned and could be enforced against formal corporate arrangements – providing the parameters in which to make informed risk-based decisions. This would help workers to feel in control and take ownership of their COVID-19 behaviour, whilst still maintaining organisational oversight and a means of holding workers to account.

6.4. CORE WORKING HOURS

The research suggested that different groups of EDF workers had different needs and challenges during the pandemic. The feedback suggests that EDF have tried to accommodate these individual differences amongst workers, however this was said to have introduced conflict and operational challenges at times, such as difficulties communicating with workers working at different times over the course of the day/evenings (see section 4.2.7 Working from home). It is important, where possible, for EDF to acknowledge and accommodate individuals' personal circumstances and competing priorities, whilst maintaining the needs of the business and continued safe operation. **The researchers would therefore propose that EDF agree shortened core-hours (e.g. between 10am-2pm) where individuals ensure they are contactable by colleagues.** EDF may wish to consider setting core hours for ‘plant touchers’ and ‘non-plant touchers’ in recognition of the different operational demands placed on these two groups of workers, whilst ensuring these core hours overlap to enable cross disciplinary collaboration within the business. For those working remotely, these core hours will enable regular opportunity for site-based colleagues to contact them and vice versa. If EDF were to consult with all workers across the different business functions and departments, core hours could be agreed to align with the majority or even vary to a standard pattern across the working week. This will enable communication updates to be passed between individuals/teams/departments to ensure prevent communication vacuums and delays in exchange of information and decision making.

6.5. MONITORING WORKER WELLBEING AND SIGNPOSTING TO SUPPORT RESOURCES

Figure 32: image of extended working hours

A number of workers stated that they were working extra hours from home and that their workload had increased (Figure 32), believed by many to have a detrimental impact on their mental health (see section 4.2.8). **Researchers recommend EDF managers ensure opportunity for direct contact time with workers to detect where individuals may be feeling low or overburdened and intervene where necessary.** Identification and signposting to mental health support resources available online (e.g. free NHS yoga classes, self-directed mindfulness and relaxation sessions) may also enable empower workers to engage in self-help techniques and take action to alleviate feelings of stress to improve their own mental health. This would not be costly for the business given many freely available resources are available via the internet.

6.6. EXTEND BEHAVIOURAL SUPPORT FOR CONSISTENT COMPLIANCE AMONGST CONTRACT PARTNERS

Many contractors noted differences in policy and protocol between contract partners and workers employed by EDF. One such example given was that contract workers were not ensured sick pay when isolating with a positive test for COVID-19, unlike direct employees of EDF (Figure 33). It is important that EDF consider the way in which their policies/processes have the potential to positively or adversely impact worker behaviour. Taking the above example, the COVID-19 transmission risk and potential business impact of an individual attending the workplace having tested positive for COVID-19 remains the same, whether they are employed by a contract partner or directly by EDF. **Researchers therefore recommend that EDF review the COVID-19 policies, processes and expectations in place for their direct employees and the extent to which it is necessary (from a risk management perspective) to ensure that these are applicable to contractors.** Collating a central record of this review activity and cross referencing this with all contract partners will ensure that process and practices remain consistent and any necessary changes are communicated as required to all agencies. Researchers acknowledge that it may be costly for EDF to fund additional sickness absence amongst workers employed by contract partners. However, it is important that the financial cost be considered relative to the risk of transmission and potential implications on business operations. **Researchers recommend that EDF contract managers liaise with EDF COVID leads, the senior management team and contract partner leads to identify a viable solution**. For example, this may include, updating contract terms to ensure contracting organisations provide financial support for COVID-19 related sickness absence, with contribution from EDF directly if palatable.

Figure 33-Image of lack of sick pay

7. DISCUSSION

7.1. KEY FINDINGS

The energy sector is one of the critical national infrastructure sectors that was required to keep producing during the pandemic. This was particularly complicated for the nuclear energy sector due to the highly specialised workforce and inability to shut down reactors at short notice. Therefore, EDF was required to implement strict mitigation measures to avoid workplace outbreaks and limit infection rates to avoid staff absences. This research project investigated how EDF kept their workers safe and its nuclear sites running by exploring the COVID-19 mitigation measures implemented at two EDF sites. Workers perceptions of the most and least effective measures were explored along with factors helping or hindering mitigations and lessons learnt for a future pandemic or other health emergency.

Similarities can be seen with EDF's mitigation measures and other nuclear power plants during the COVID-19 pandemic. A study by Kuo and He (2020) looking into crisis management within nuclear power plants during the COVID-19 pandemic identified poor communication to be one of the biggest problems. The research suggests this caused issues, such as delays in the implementation of measures, which in turn caused more cases and outbreaks amongst the workforce. A number of communication challenges and issues emerged from discussions with EDF workers, including conflicting information, local level interpretation of advice/guidance and subsequent action and differences between communications on neighbouring sites. Kuo and He (2020) recommended simulating outcomes of possible scenarios, preferably through a central information dissemination centre. Through this, misinformation could also be avoided, along with any confusion amongst different workers in the nuclear power plant.

An additional report (Farrar et al, 2020) presented the COVID-19 mitigation measures in nuclear power plants across different countries, with many similarities evident with EDF's measures. This included, for example:

- temperature testing and electronic communications in the Czech Republic, used to help limit social interaction amongst staff in the workplace;
- an emergency response plan ensuring feasibility of operations in French nuclear plants, even if 40% of staff are absent (during the peak of the COVID-19 epidemic);
- increased cleaning regimes in Romania; and
- making face masks mandatory for all workers in Slovakia

Our report found that EDF took extensive measures and invested considerable money and resource into keeping their workers safe and nuclear sites running. The main study findings suggested that mitigation measures such as cleaning regimes, social distancing, access to PPE, testing and vaccinations were generally well received and praised by most EDF workers across both sites of focus in the study and helped limit the spread of the virus. In the main, workers felt that EDF were supportive and that most measures were communicated well across the course of the pandemic. However, workers reported some difficulties in keeping up with the multiple and frequent changes to COVID-19 guidance and policy inside vs outside of the workplace. A total 24 suggestions were proposed by workers to improve the business response to COVID-19 in the future. Furthermore, additional recommendations are also provided by the study researchers, underpinned by the qualitative findings.

7.2. WHAT DO THE FINDINGS MEAN?

The findings of this research have implications for EDF workers and future practices within EDF. A more collaborative approach to a future pandemic / health emergency may now be conducted where workers individual needs are better accounted for. The findings and recommendations presented may help to prepare EDF for future events and include: implementing measures early; transparently communicating changes to policy and practice along with the underpinning risk based reason for these changes; and keeping information/support consistent, where possible, across both H1 and H2 sites. From this research, we found that it was challenging for EDF to please the entire workforce whilst also keeping the safety of the workforce a top priority. This was due to individuals' personal assessment of risk at different times during the pandemic. Examples of challenges faced included comments surrounding mitigation measures and rules, e.g. some people really wanted testing to continue while others really thought it was unnecessary. Additionally, there was some different interpretation of rules between management and workers, e.g. while EDF did not explicitly say that staff couldn't socialise outside of the workplace or see family members, this was still how some workers interpreted the message they received.

7.3. STUDY LIMITATIONS

This study had some potential limitations. Firstly, the study involved data collection by a team of qualitative researchers who were not experts in the field of energy production. The interpretation of the data may therefore have been different to those with experience working or researching in this sector. However, researchers are experts in behaviour change and impartial stakeholder consultation to ensure robust qualitative engagement with those individuals working within the energy production sector. Secondly, whilst anonymity was ensured and confidentiality remained a key priority in the data collection period, the presence of chaperones (for security reasons) may have affected workers' willingness to

speak openly about their experiences due to the fear of being heard/judged. Similarly, the anonymity and confidentiality in place during this study makes it difficult to suggest recommendations targeted toward certain groups of workers, given that demographic, departmental and personally identifiable information was not collected (by design). This also meant that the proportion of contractor's vs EDF-employed staff that chose to participate through opportunity sampling was unknown. Not obtaining this information however, arguably resulted in more individuals being willing to take part in the study and be more open and honest with their suggestions/comments.

7.4. WHO IS THIS RESEARCH USEFUL FOR?

This research may be useful to a wide range of workers and staff members at EDF who may want to: understand the lived experiences of EDF's COVID-19 policy, practices and communications from different perspectives (the organisation and site-based workers); use the findings to inform future policy, practice; and provide further training and support. This report may also be interest and use to other organisations with safety critical operations, industry bodies, and regulators.

Below, we outline how different teams and groups of workers may choose to use these findings in case of other potential health emergencies that may arise in the future:

- **EDF Senior exec team:** can use the information from the report to understand which areas to prioritise in case of another pandemic/outbreak, and can do this in advance to avoid any problems associated with cases/outbreaks
- **COVID Safety leads for H1 and H2:** can use this information to help centralise further information between both sites to ensure workers are being given the same set of rules, and avoid confusion for those with working knowledge of both sites.
- **Occupational Health and safety leads/team representatives:** can prepare and plan for future pandemics and health emergencies; consider preparing paperwork, updating emergency health plans and helping limit occupational exposure by following successful mitigation measures and avoiding/amending implementation of those that did not work as well.
- **Leads and managers:** can more effectively use communication and support for workers across different teams, departments and sites; can ensure better communication between different managers and team leads to ensure everyone is receiving the same information. This could be done through further training sessions for team leads.
- **Union representatives:** gain further knowledge about differences and similarities between different workers (e.g., contractors vs EDF employed staff) to help support certain work/encourage more changes in the future which targets specific groups.

7.5. CONSIDERATION AND FURTHER RESEARCH

Future research with EDF could focus on implementing some of the suggested recommendations, such as ensuring clarity, consistency and accuracy of interpretation of business communications, using the help of researchers to evaluate whether this is a success. Additionally, future research could focus on conducting qualitative interviews with EDF managers such as COVID safety leads, occupational team representatives, leads and managers and the senior executive team. This could potentially obtain different perspectives of EDF's approach to COVID-19, and would allow demographic information to be recorded.

In the future, it could be beneficial to explore the extent to which EDF and Heysham findings are applicable and reflective of wider sector or safety critical infrastructure within the UK. The results could potentially be helpful for policymakers and organisations in other critical infrastructure industries in the event of a future health emergency. Feedback with the senior management team has suggested that future research could explore how EDF helped and supported leaders to improve leadership performance for future health emergencies.

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ANNEX 1: EDF SITE BASED VISUALS

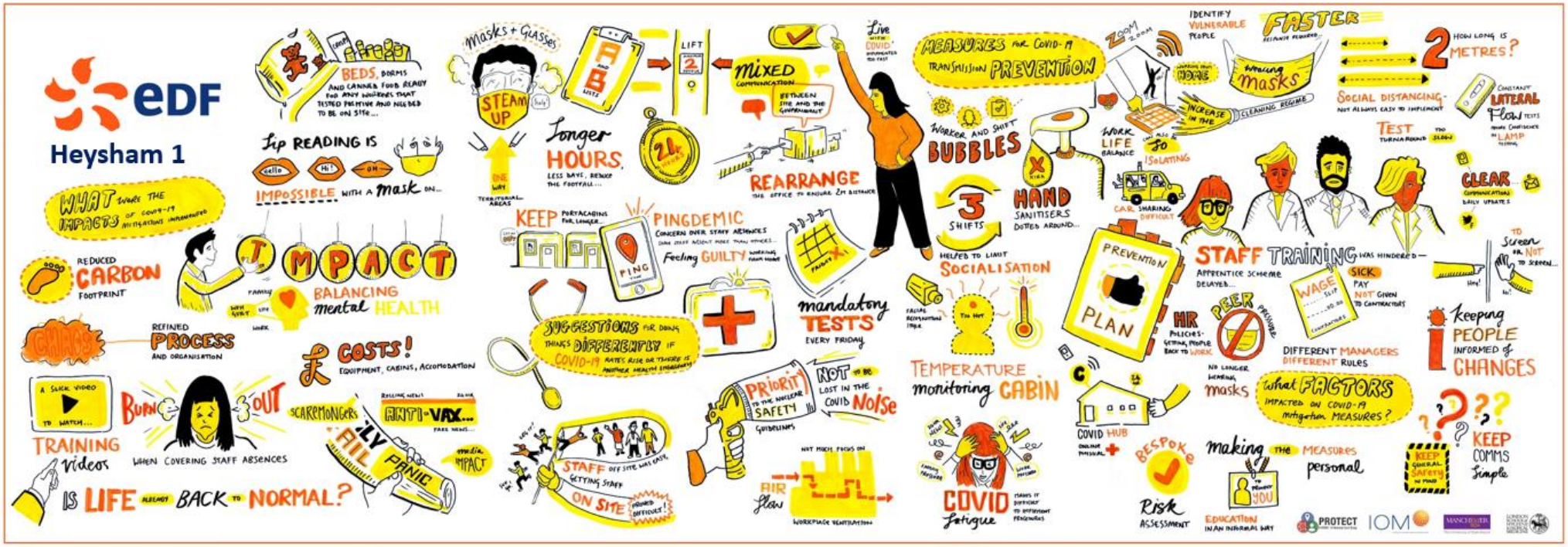


Figure 34: EDF Heysham 1 visual representation

Figure 35: EDF Heysham 2 visual representation

ANNEX 2: PARTICIPANT INFORMATION

Covid-19 National Project

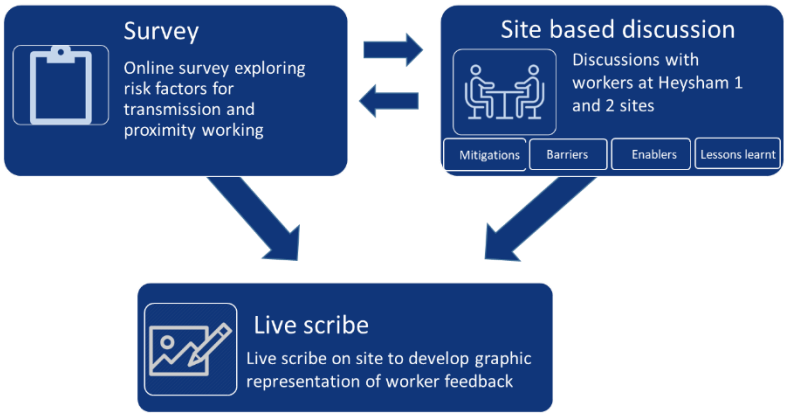
Participant Information Sheet – EDF site-based discussions

Project aims

PROTECT National Core Study researchers[5] are interested to understand the views and experiences of site-based workers regarding the COVID-19 risk reduction measures, put in place at EDF during the pandemic. This work forms part of a multidisciplinary research project to understand COVID-19 control measures and lessons learned within EDF UK based nuclear facilities.

How to get involved

There are three ways to have your say and share your experiences with our researchers (illustrated right). These different approaches will explore barriers, enablers, impacts and unintended consequences to risk reduction measures implemented as well as lessons learned for the future. We invite you to share your views with our research team through as many of these methods as you like.



- The online survey will be distributed by EDF and made available through the unrestricted company intranet. This will be live from July 25th 2022 for you to complete.
- Researchers will be present on site, within the canteen on 25th & 26th 2022 at Heysham 1 and 27th & 28th at Heysham 2, between 10am – 2pm each day, running drop in sessions for you to share your views in written form on pre-prepared flip charts or through informal discussion.
- During the above days and times, a 'live scribe' will be stationed in the main canteen, to develop a graphical representation of the feedback generated by site-based workers through the survey, informal discussion and in written form.

EDF have agreed that you can choose to take part in this study during working hours, without detriment, should you wish. If you have any questions about the project or participation please contact: Rebecca Canham (PI for the project) [email provided].

Your choice to take part

Implied consent: Participation is voluntary. If you do not want to take part, that's ok. Should you choose to take part via any of the above methods, you are providing us with your implied consent for this information to be used as a data source for analysis in relation to the project objectives above.

Anonymity and withdrawal: All data will be gathered anonymously - we do not require any personally identifiable information about you. We may use, direct quotations for illustrative purposes in reports but we will ensure that these will not identify you. As your participation will be anonymous, it will not be possible for us to identify your contributions in order for these to be withdrawn following participation.

Project contacts

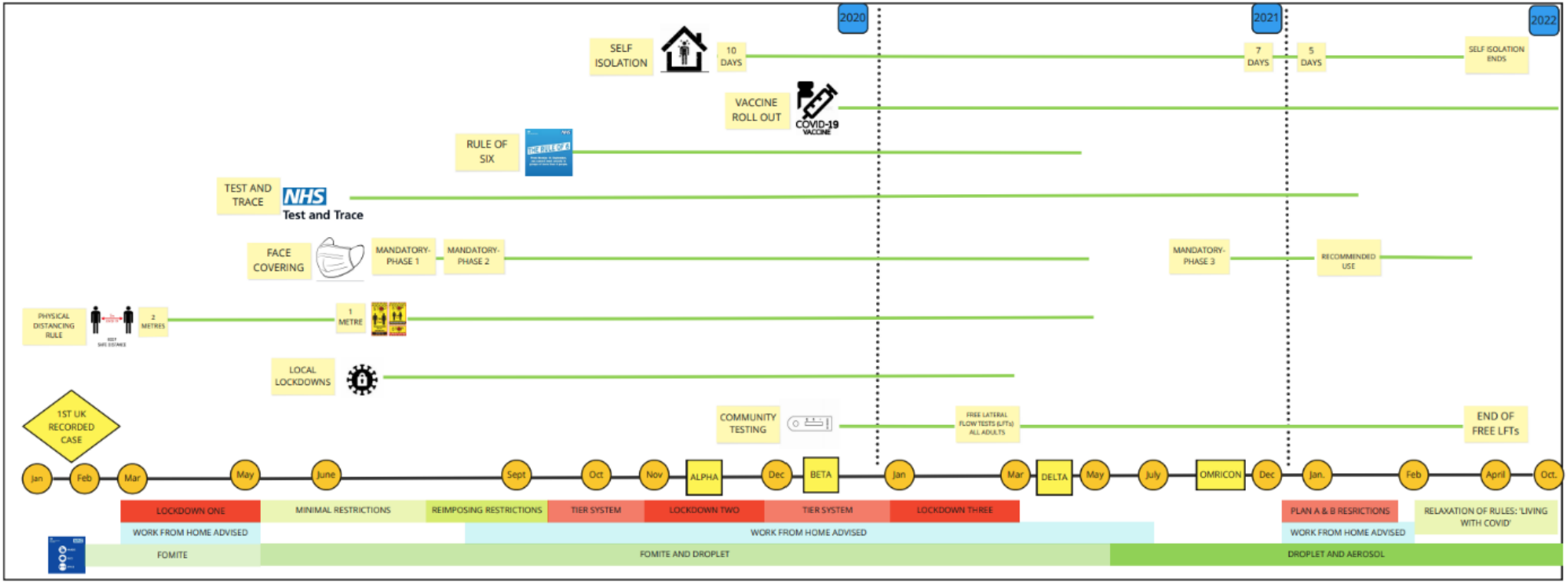
The Online Survey is being conducted by the research team at the Health and Safety Executive (HSE), contactable at [email provided] or by telephone on [provided]

The site based discussions and live scribe are being led by Rebecca Canham (Institute of Occupational Medicine) and Dr Anna Coleman (University of Manchester), contactable at [emails provided]

This study has been reviewed and given ethical approval by Reading Independent Ethics Committee who have agreed that it is okay for us to ask people to take part.

[5] From the Institute of Occupational Medicine (IOM), the University of Manchester (UoM) and the London School of Hygiene & Tropical Medicine (LSHTM).

ANNEX 3: COVID-19 TIMELINE FOR ENGLAND



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The PROTECT COVID-19 National Core Study on transmission and environment is a UK-wide research programme improving our understanding of how SARS-CoV-2 (the virus that causes COVID-19) is transmitted from person to person, and how this varies in different settings and environments. This improved understanding is enabling more effective measures to reduce transmission – saving lives and getting society back towards 'normal'.

Published by the PROTECT COVID-19 National Core Study 01/2023