

# **“MARKING MAYHEM”**

## **AN EDUCATIONAL WARGAME**

*By Mary Chen*

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### **WARGAME BREAKDOWN:**

1. *Player Groups:* In “Marking Mayhem”, players act in one of the following roles: a radicalized apocalyptic millenarian cult called the Branch Barbarians, the Arkansas Department of Emergency Management, the Office of the Governor of Arkansas, the Arkansas State Police in conjunction with Phillips County Sheriff’s Department and Arkansas National Guard.
2. *Control Groups:* In “Marking Mayhem”, the control groups will include Queen Energy Corporation, the federal entities responsible for incident response and the Office of the Governor of Arkansas to facilitate emergency management and response, chain of command and coordination.
3. *Game Objectives:* “Marking Mayhem” is a crisis management rapid-response game designed to enhance student understanding responses to nuclear sabotage.
4. *Learning Objectives:* Students will develop and improve on decision-making skills by making decisions about how to respond to a developing crisis. Students will learn about the complexities of emergency management by roleplaying the partition of responsibilities between the different blue team players. Students will also learn about the complexities of interagency cooperation by responding to a crisis in different roles in state and local levels of authority. Students will gain basic foundational knowledge in the various institutions and organizations responsible for responding to a terrorist incident. Students will develop and improve on critical thinking skills by making decisions on information flow and exchange between different blue team players. Students will learn how to intake, verify and synthesize information in a timely manner by making decisions based on new information that arises during a crisis. Students will also learn how to classify and prioritize incidents based on the information they are given.
5. *Game Rules:* Players in “Marking Mayhem” will be limited to the information they are given at the beginning of the wargame and will not have access to open source research.
6. *Game Timeline:* “Marking Mayhem” is played in a simulated timeline, in which every ten minutes of playtime corresponds to 2 hours of event time, for a total time limit of 120 minutes. This corresponds to 24 hours total from the time of the initial attack.
7. *Notes:* “Marking Mayhem” simulates a successful nuclear sabotage scenario at a fictional nuclear plant site and tests the response of local and state authorities initially without extended federal assistance. At the 12-hour mark, the federal entities will arrive on scene and local/state authorities will have to decide how to interact and coordinate with them. “Marking Mayhem” is a game designed to be played by students as an educational exercise for critical thinking, decision-making and applied knowledge of CBRNE terrorism.

### **WARGAME BACKGROUND:**

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Welcome to the year 2021. Nuclear energy provides upwards of 30% of the world’s electricity, sourced from nuclear power plants. Today, the United States is the top nuclear power generating country in the world. There are 61 commercially operating nuclear power plants with 99 nuclear reactors in 30 U.S. states.<sup>1</sup> Of these nuclear power plants, 36 have two or more reactors.<sup>2</sup> One of the most prominent is the Mississippi River Nuclear Plant in Arkansas, known colloquially as MR2. MR2 went into service in 1980, helping to supply reliable and clean energy to millions of customers in Arkansas.<sup>3</sup> The nuclear plant is located at the 5,000-acre Fair Landing Energy Complex, which is also home to four coal-fired units, a Mariculture Center and a new combined-cycle natural gas plant construction project.<sup>4</sup>

On November 29<sup>th</sup>, 2020, Queen Energy Co. announced the decommissioning of MR2 on the discovery of critical damage to the integrity of their concrete structures. In adherence with the Nuclear Regulatory Commission (NRC), Queen Energy Co. selected the safe storage (SAFSTOR) option for their decommissioning project, also called delayed decontamination. Generally, this involves placing the facility in a safe storage configuration, requiring limited staffing to monitor plant conditions, until the eventual decontamination and dismantling activities occur, usually in 40 to 60 years.<sup>5</sup> By choosing the SAFSTOR option, the plant’s used nuclear fuel will remain in the existing on-site fuel pool until a new, on-site dry cask storage facility is built. Their first step is to file a certification letter with the NRC and cease operations by permanently removing fuel from the reactor vessel.

Due to the plant’s decommissioning status, Queen Energy Co. has been legally allowed to relax safety protocols. Therefore, their security precautions include: physical barriers consisting of barbed wire fencing and concrete walls around the perimeter of the complex, electronic detection and assessment systems and electronic surveillance. Access to the vital area housing the reactor, associated safety systems, control room, used fuel pool and main security alarm stations is protected by card readers, security doors and a staffed guard station at the main entrance to the facility.

As nuclear security is a top priority of the U.S., it has been recognized that nuclear reactors present a tempting target for potential security breaches and threats. Six months ago, MR2 received a bomb threat via phone call to the main office of the energy complex, in which the caller claimed to have placed explosives in discrete locations of the nuclear plant. Site security and local law enforcement responded in the appropriate manner; however, upon further investigation, the bomb threat was proved to be false and no damage or injuries were incurred. Suggestions were made to Queen Energy Co. to increase their security temporarily, but company

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<sup>1</sup> EIA

<sup>2</sup> EIA

<sup>3</sup> Duke Energy

<sup>4</sup> Duke Energy

<sup>5</sup> Duke Energy

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officials decided the plant was not in any serious danger, as they wanted to continue ahead with the decommissioning project without any additional cost. Finally, MR2 officials and Queen Energy Co. representatives are in the process of conducting an annual update of their electronic surveillance system, which is due to be offline for a total of one and a half hours.

## **RED TEAM OVERVIEW:**

- *Background & Ideology*

In year 2018, several members of the Church of the Final Rapture<sup>6</sup> formed a breakaway sect in Little Rock, AR. This group, calling themselves the Branch Barbarians (after their leader John Barbara), held apocalyptic millenarian views that bordered on a technocratic fetish blending religion with science fiction, in which they would bring about the end of days by proving how weak the government was in a series of attacks using ultimate weapons of mass destruction. John Barbara preached that he was a messenger of God sent to conduct the cleansing to make way for the second coming. This cleansing evolved into the idea that only a wide-scale attack using weapons of mass destruction would suffice. The group developed cultish tendencies when John Barbara began to control members' careers, finances, daily activities and relationships within and outside the group. Housing the group in a remote location in southern Arkansas, John Barbara managed to collect over 3 million dollars' worth of financial assets through his followers. While the group has never directly been involved in major attacks, they have been involved in a series of robberies in which they stockpiled weapons such as conventional explosives. They have also legally purchased firearms and explosives; though they made attempts to acquire CBRN material through conventional routes such as purchases from the black market and abroad, they were not successful. Several members of the sect (a group of approximately twelve to fifteen people) became dissatisfied that they weren't launching any big attacks and were sitting on all that money and firepower, so they decided to launch their own. After they heard about the decommissioning news, they decided that to achieve their goal of "cleansing the people" by inducing the coming of the apocalypse they would commence a series of attacks planned at several different nuclear power plants that are being decommissioned. The first will be MR2 and they must attack before the plant reaches SAFSTOR condition, which it will in 2020 and before the nuclear material is removed. Additionally, they have an inside man, a security guard who has been working at the plant for two years and has restricted access to the nuclear reactor.

- *Resources & Skills*

There will be six people that will volunteer to participate in the attack, not including the inside man. One of these men has advanced demolitions knowledge and three years self-taught experience in explosives engineering. They also have the limited expertise of the insider security

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<sup>6</sup> This church espouses the ideology of:

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guard, who has knowledge and access to information about the nuclear power plant schematics and security protocols. They have enough access to basic open source research, such as “how to” google skills to learn how to conduct a moderate terrorist attack with conventional explosives. They have financial resources and assets totaling to 1 million US dollars. They have approximately enough firearms to fill up a large armory and enough explosives to demolish a twenty-story concrete structure, so they have the firepower to realistically succeed at this plan. *Notes:* A CBRN attack is not an option, nor is theft of nuclear materials, as your goal is to cause as much radiological exposure as possible.

## **BLUE TEAM OVERVIEW:**

- *Background*

Initial emergency response to a terrorist/radiological incident falls under the responsibility of the Arkansas Department of Emergency Management and associated law enforcement and military functions. Therefore, blue team will be divided into two groups that represent the aforementioned. *Notes:* In the event of a terrorist incident, you must notify the FBI immediately to request assistance and oversight. *Blue Team includes:* Director, Arkansas Department of Emergency Management (DEM), Office of the Governor of Arkansas, Arkansas State Police (with the resources of the Phillips County Sheriff’s Department and the Arkansas National Guard)

- *Priorities & Considerations*

As state and local entities, your priorities are to neutralize the threat and assess the damage. In responding to this situation, you should consider the following: containment, communication, evacuation, emergency services and coordination. *Notes:* In the event of a radiological release, you must notify the appropriate federal entities. The on-site organizations and teams responsible for emergency response were retired as of the decommissioning notice.

- *Resources*

~~Arkansas Department of Emergency Management (DEM) — for oversight and coordination by the Governor and FEMA via the Emergency Director~~

Technical Operations Control Director – for (1) radiological assessment team

Phillips County Sheriff’s Department – (10) sworn deputies (additional deputies from other counties may be requested through DEM)

Arkansas State Police – (3) Highway Patrol to assist with evacuation routes, traffic control, (4)

Troopers from Troop E to augment security and (1) Fire Marshals for containment to total 8 (additional units from other counties may be requested through DEM)

Arkansas National Guard – 146 soldiers

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Arkansas Department of Health – for treatment, monitoring and delivery of medical services, Disaster Medical Assistance Team (DMAT) are volunteers

Arkansas Department of Human Services (DHS) – food

Arkansas Highway and Transportation Department (AHTD) – traffic control

American Red Cross – shelter management

~~Civil Air Patrol (CAP) – aerial reconnaissance~~

Phillips County Emergency Medical Service – transportation (how many ambulances ALS and BLS), two hospitals

Queen Energy Co. personnel – site security, plant operations manager, control room supervisor and operators, shift engineer and company spokesperson all overseen by site vice president who will be unavailable until much later

Emergency Classification System<sup>7</sup> (Category H – Hazards and other conditions affecting plant safety): notification of unusual event, alert, site area emergency, general emergency

### **CONTROL GROUPS / FEDERAL ENTITIES:**

Queen Energy Corporation – coordinates with first responders

Governor of Arkansas – to facilitate requests for state and federal assistance

FEMA – coordinates with DEM and ADH

NRC – provides guidelines on nuclear security

FBI – Special Agent in Charge (SAC) of local Field Office establishes command post that will be transitioned to a Joint Operations Center in the case of WMD, Joint Terrorism Task Force

### **INJECTS**

1. One of the cult members is mortally wounded (and dies) in the process of the attack: this simulates the law enforcement entities making a decision in taking the opportunity to gather evidence from his body and history/background.
2. Successful nuclear sabotage attack: the cult’s plot is successful in inducing a significant radiological release that affects the surrounding areas and triggers the emergency management system. This will also include information about the radiological release and potential consequences.
3. The information they receive back about the dead individual: he is a member of the cult, his experience, some of his past movements, information about the cult itself and their possible strategic goals.
4. FBI arrives on scene at the 12 hour mark: even though they arrive, they still have to set up for the next 12 hours and the law enforcement entities need to figure out how to coordinate with them and transfer authorities to them and share information with them.

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<sup>7</sup> ARCERM pp. D-8