

## Project Profile Hinkley Point C - United Kingdom

Maxwell GeoSystems has deployed its **MissionOS** system to monitor the enabling excavation works for the UK's first EPR nuclear power station at Hinkley Point C in Somerset, for the Kier Bam Nuttall JV.

EDF Energy is building the UK's first EPR nuclear power station in Somerset, which will generate 3.2 GW of electricity. The initial programme of site activity is focusing on earth excavation.

Over 5.5 million m<sup>3</sup> of material will be dug from the site, creating excavations large enough to host the foundations for the power station's two reactors.



Image Courtesy of EDF Energy

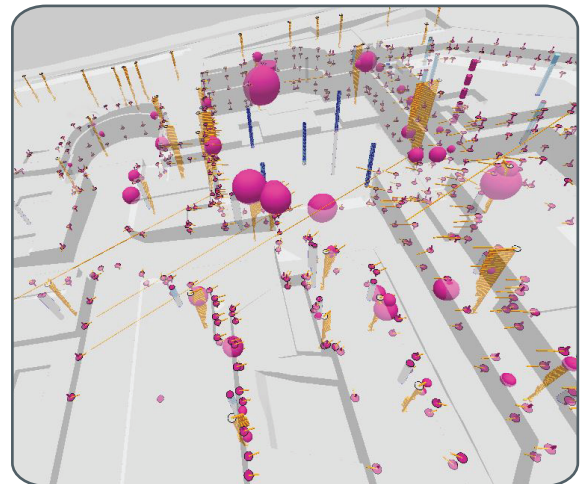
The earthworks are intricate, and the digging area has been split into more than 50 separate zones, each of which has a different platform level that must be constructed to and which will become the formation level for the main works package.

Adding to the complexity of the project is the nature of the bedrock on the site: fissured mudstone interbedded with limestone. Maxwell GeoSystems was brought into the project to enable the monitoring of the walls of the tied back excavation of this bedrock in real-time, to identify any movements which may occur during and after the excavation progress.

The **MissionOS** system dynamically combines data from different sources so that changes in site conditions such as wall movements, and increases in water levels, can be easily displayed.

**MissionOS** has flexible views which incorporate graphs, contours and a powerful real time 3D viewer of the excavation site. In the event of an instrument exceeding an alarm level, notifications are sent out to key personnel via email/SMS, and an exclusion zone quickly established to protect the workforce.

The enormous size of the site (500x600m) comprising excavations up to 35m deep in bedrock, with more than 100,000m<sup>2</sup> of rock slopes to be formed) necessitates a high density of instruments installed. (See below\*)



MissionOS' on-the-fly 3D showing a Digital Twin of the excavation

The latest enhancement is integration of **MissionOS** with the corporate web GIS - providing site-wide access to instrument readings and alarm status, combined with a wealth of other departmental information.

Sector	Excavation	Location	United Kingdom	
Client	EDF Energy	Budget	USD\$ 28.7 Billion	
Technical Summary	Instruments	2,239+	*Instrument Types	
	Users	40	Installed	
	Status	Ongoing	3D Prisms	1461
			DYNA Force	137
			Piezometer-standpipe	139
			Rod Extensometer	53
			Shape Accel Array	240
		Vibrating Wire Piezometer	209	