



The 10-part sci-fi is adapted from stories by Hugh Howey by showrunner Graham Yost (Credit: Apple TV+)

Apple's dystopian drama *Silo* pushes creative boundaries in its ambitious second season, with parallel timelines, epic visuals, and innovative cinematography that redefines underground storytelling.

Apple was confident enough in its world building drama *Silo* that season two was already well into production before the first season had even released.

Baz Irvine BSC ISC (*Invasion*) recalls seeing a rough cut of episode one, season one while he was in New York towards the end of 2022. "I thought, my God, this is like a DP's dream. It's epic with a brilliant conception and look."

Silo debuted in May 2023 and laid the groundwork for a dystopian future which has left 10,000 citizens living in a bunker one mile deep. The 10-part sci-fi, adapted from stories by Hugh Howey by showrunner Graham Yost, ended with the apparent survival of engineer Juliette (Rebecca Ferguson) outside of the silo and the revelation of dozens more silos in an apocalyptic wasteland.

Season two plays out parallel timelines inside Silo 18, where Mayor Holland (Tim Robbins) and the authority of Judicial led by security chief Sims (Common) face a growing revolt and Silo 17 where Juliette finds that she is not alone.

This expansion of the world led Irvine with director and executive producer Michael Dinner to make some key creative changes straight off the bat. "When you walk onto set you can see that they're designed for widescreen, even though counter intuitively the silo is vertical," Irvine says of the decision to switch 2.39:1 from 2:1. "Everyone likes to say widescreen is cinematic but it's not the norm for episodic and perhaps there was reluctance to use it on season one. Since then, Apple released *Severance* and other shows were going wider format, so the mould had been broken. In this instance, I really felt 2:1 was restrictive and any chance you can to open the frame and the field of view just felt right."

In a change from the Caldwell Chameleons in series one, Irvine chose spherical Moviecam lenses. "On a show this big, multiple sets of matching lenses that work for VFX, and the demands of double banking, are paramount," he says. The lenses also had slightly older glass which helped with the retro aesthetic. After testing at Panavision and ARRI, Irvine decided to retain Alexa Mini LF as the show's main camera.

"I love anamorphic and like every DP it's your sort of default aesthetic, but with *Silo* the whole

concept is there's no natural daylight. You don't have sun, you don't have all the little flares. You are constricted by space. Some of the rooms are actually quite small on stage but the minimum focus of the sphericals allowed me to get in a bit closer.

"We obviously wanted to be very sympathetic to season one but it's also important to breathe life into each new season because if you don't try to push boundaries it risks becoming formulaic and predictable. We had this great opportunity with the new Silo 17 to do that."

The scope of the second season required all the stages at studios in Hoddesdon, Herts used for the first series and additional space at Pinewood and Oma Studios in Enfield.

Episode one plays out almost as a silent film and mostly features Juliette's exploration of Silo 17. "There was a lot of action, so we go slightly more handheld for a more visceral look. The audience wants to experience the Silo with Juliette - not be two steps ahead."

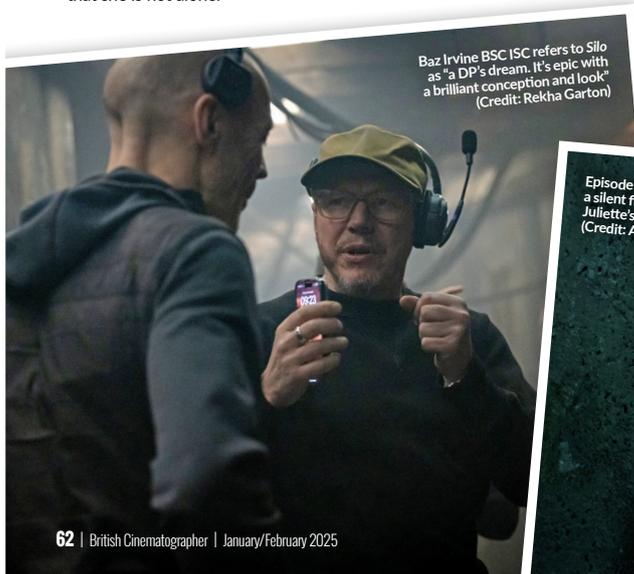
WATER WORLD

A key consideration for Irvine, who also shot episodes two, six and seven, was filming the series' underwater scenes. "We did a dry for wet test where we put a stunt double on a wire and examined the idea of swimming shots or general movement in water. We knew that

Rebecca's hair was going to be visible

for all the underwater stuff, which is incredibly hard to replicate in VFX.

"We discussed the possibility of shooting at tanks in Malta and Belgium. We could do a lot of shots horizontally and use the full length of the tank at Pinewood but for all 'surface shots' and the journey through submerged corridors, we decided to build our own tank at Oma. We had a week of lighting and testing at Pinewood and



Baz Irvine BSC ISC refers to *Silo* as "a DP's dream. It's epic with a brilliant conception and look" (Credit: Rekha Garton)



Episode one plays out almost as a silent film and mostly features Juliette's exploration of Silo 17 (Credit: Apple TV+)

built up a 'bible' for our underwater shots, planning which pieces to allocate to Pinewood and which we needed the bigger tank for."

For example, when Juliette falls into the water for the first time in episode one, the shot when she hits the water was filmed at Pinewood. Once she surfaces, the shot was picked up at the 1,000,000-litre tank at Oma.

"We planned underwater lighting at depths supposed to be 150 feet, where it's going to be virtually pitch-black. So, with gaffer Sol Saihati, we had to devise ways of getting light down into the water that felt natural. Sometimes you need a very soft light, sometimes you need light to reflect off the ripples so the water doesn't look completely lifeless. For shots that were supposed to be deeper we created very subtle shafts of light with robes."

Specialist underwater DP Mark Silk gave Irvine advice and operated the camera in an underwater housing. They also used a Hydroscope crane for remote camera and specific movements.

"The process must have been incredibly arduous for Rebecca but you wouldn't have known it," says Ollie Downey BSC (One Day) who shot episodes three and four for director Aric Avelino. "She throws herself into everything she does with absolute commitment. It was also challenging for the crew."

To ensure they didn't get heavy condensation dripping from the roof onto lighting and camera kit, the air temperature in the stage had to at least match the water temperature (which was around 30°C). "In the middle of summer, we had this roasting hot and incredibly humid stage to work in," Downey describes. "Watching crew arrive for work looking like they had just stepped off the beach - Hawaiian shirts everywhere - was quite something to behold. My underwater sequence in



The cinematographers wanted to be very sympathetic to season one but also breathe life into each new season (Credit: Rekha Garton)



Ollie Downey BSC: "For such a big show there is a total absence of egos. There is a genuine passion for the world being created and commitment to honouring the source material." (Credit: Rekha Garton)

episode four had to be precisely storyboarded by Aric and scheduled by first AD Jon Midlane. Fortunately, the shoot process was pretty straightforward in no small part thanks to Mark and his excellent team."

LIGHTING FOR DEPTH

The lighting and the colour design established in season one, mirrors *Silo's* societal stratification with the top of the silo lit with a huge overhead light. As Irvine describes it, "If you're elite you live in the uppers and there's a more rarefied natural light. Light is reduced progressively as you travel down through the mids and lowers to mechanical where it's dingy and underexposed. Mostly we're using overhead soft boxes, some that were rebuilt into the main stage."

Irvine also brought in 12 x 12 balloons when he needed more flexibility to move lights around and get precisely to where it was needed. "There's only a handful of times where we use tungsten. One of them is in episode one when the rebels turn handmade spotlights onto the I.T area before the bridge comes down and I used two modified 5Kw Molebeams.

"My philosophy was to keep the overall picture quite dark, while trying to differentiate between the layers. The idea I probably tried to push more than series one was what it looks like when you're up top

versus when you're down deep. In the deeper layers of the silo we put a lot of wet downs on the floor and walls so that any of the greeny-orangey fluorescent practicals would naturally get little kicks. You can play stuff darker when you create reflections and texture."

Other lights could be requested and installed as they shot each set, provided they kept within certain rules. "Everything in the silo has to look as if it has been built in the silo," Irvine says. "You can't suddenly source some cool new fixture. Requests had to be production design approved. We had a great relationship with [production designer] Nicole Northridge so when Sol and I saw places where we'd need to hide wall or ceiling mounted fixtures, Sol and his team would 3D print soft conical or oval housings for Astera tubes and then install them very quickly."

Working on a show this scale means that when the DP is not shooting "you're testing, planning, lighting," says Irvine. "It never sleeps and it's got so many moving parts to wrangle. I had the luxury of knowing that when I'd done my first couple of weeks (in March 2023) I could hand over to Ollie or Ed. That freed me to start thinking about scenes in which Juliette walks across the planet's surface."

This is the scene that opens episode one [and to which we return in episode 10] where Juliette walks over the ridge of the silo and sees thousands of desiccated cadavers. Live action was filmed in a car park where Irvine could control lighting. >>



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DISCOVER EXTRAORDINARY



Silo 17 is a decayed, depopulated habitation running on emergency generators (Credit: Apple TV+)



Season two plays out parallel timelines inside Silo 18, where Mayor Holland and the authority of Judicial led by security chief Sims face a growing revolt and Silo 17 where Juliette finds that she is not alone (Credit: Apple TV+)



Everything in the silo has to look as if it has been built in the silo (Credit: Rekha Garton)

»» BLUESCREEN VFX

Silo was cross boarded which enabled the DPs to share an office and compare notes. "Sometimes one would kick off a new set and light that and others would step in," says Ed Moore BSC (*Hijack*) who shot for director Amber Templemore. "It was led by Baz and informed by the look of what had been done in the first series."

The main staircase set and main bridge at Hoddesdon is the structural core of the silo, one end of which can be redressed for sets including cafeteria, I.T. or Judicial. Bluescreen extensions including bluescreen floor are used in most shots to achieve a sense of the architecture's vertical scale.

Camera and directing teams use previs created by VFX supervisor Daniel Rauchwerger to look up or down the 'Y' axis and view a real-time CG image of the silo's internal dimensions.

"One of the shots I pitched to Amber was the opening to episode five when the residents have begun to riot," Moore explains. "I wanted to create a shot that would take us all the way across the void. The shot began with operator Jon Tyler tracking backwards then connecting the camera magnetically onto a motion control cable system. That took us out over the void. We're remotely operating looking down into the (bluescreen) depths. Jon sprinted round to catch the camera on the other side before pushing in on our heroes under the balcony."

The DPs had to carefully match lighting on the real set with lighting designed into the virtual silo so that it looked a cohesive shot. "It's easy enough to have the camera tilt down and make-believe there will be a feeling of vertigo but it meant the VFX had to track and match move that whole shot."

ENTER SILO 17

When production recommenced after the strikes halted production, Moore had a schedule clash. Enter Kate Reid BSC (*What It Feels Like For A Girl*) who has a co-credit with Moore on 10, additional photography on five and eight and sole credit on episode nine. Most of her scenes were in Silo 17, the set for which had been prepped but not previously shot.

"Baz and Ollie quickly brought me up to speed with the rules of Silo 17 and the logic behind their decisions," Reid says.

Silo 17 is a decayed, depopulated habitation running on emergency generators. This was reflected in production design which redressed the Silo 18 set, and in the lighting.

"The idea is that the silos were at one time uniform in look, structure and lighting but over decades the colours have shifted, it's not as bright. The aim was to adapt what had been done on 18 so it felt like a different world. In 17 nothing runs on full power.

The bulbs are broken or haven't been replaced. Only one level has power and so if there was power on a floor immediately above or below we introduced the idea that it had been siphoned off like a shanty town.

"The biggest challenge for all of us was how dark do you make it? How to achieve a kind of gloaming that allowed enough to be seen while being faithful to it being really dark."

Art department plans had cross-sections of the silo showing the location of rooms on every level so that when characters were running up and downstairs the DPs knew, depending on how close they were to the central power source, how much light to throw onto the scene.

"Where one director might be happy for there to be no light in a space another director might need to light the scenes for pages of dialogue," she says. "So establishing what light could be used was a three or four-way conversation between directors, DPs and art."

Episode nine starts on a macro of water drops on green leaves. "In the grade Amber was very keen to accentuate this. It's so unusual to suddenly see this level of greenery and life in 17."

The season cliffhanger shifts the story in time to a street in Washington then inside a bar. The interiors were shot in a pub in Spitalfields without blue screen over one day and married to exteriors shot in Washington DC.

"I tested anamorphics to see whether that might help distinguish the two worlds. In the end, we went with Canon K35 sphericals," says Reid. "It was fun because having been in the silo for months and months, towards the end of February everyone got a day out in London. They let us out!"

Downey is still there, shooting season three. "For such a big show there is a total absence of egos. There is a genuine passion for the world being created and commitment to honouring the source material. It was also lovely to spend time with the other DPs. Baz, Ed, and Kate were a delight to hang out with." ■



Ed Moore BSC on working with the other DPs on the series: "Sometimes one would kick off a new set and light that and others would step in." (Credit: Kevin Baker)



Kate Reid BSC: "The biggest challenge for all of us was how dark do you make Silo 17?" (Credit: Rekha Garton)