

## Form Part A

Question 7.1 – Provide contact details for receipt of official documents.

*This person must be a company secretary, clerk or a director as listed on Companies House.*

**Arthian Response:** Revised information has been provided by Plessey via email (dated 04 February 2026) – please advise if additional is required.

**EA Response:** This is received thank you.

## Form Part C2

Question 5 – Provide an updated site condition report.

*You have provided a stage 1-3 assessment for new hazardous substances but not an updated site condition report.*

**Arthian Response:** There is no new land being added to the Roborough installation as a consequence of the proposed variation.

Any new substances to be used at the site are either gaseous chemicals or pyrophoric liquids which decompose instantly in contact with the air and disperse. It is concluded, therefore, that the variation will not add any Relevant Hazardous Substances from the perspective of the contamination of the site. Given the nature of the substances used at the site, extensive pollution prevention measures are used to minimise the risk of any uncontrolled release occurring.

Given these facts, an update to the installation's Site Condition Report is not considered necessary as part of the proposed variation.

**EA Response:** We agree that in this scenario, an updated site condition report is not needed for this variation application.

Question 6 – Provide an updated environmental risk assessment (ERA) completed in accordance with our guidance - [Risk assessments for your environmental permit - GOV.UK](#).

*Your current ERA does not identify local ecological receptors.*

**Arthian Response:** A search has been undertaken of the MAGIC website (9<sup>th</sup> February 2026) to identify relevant ecological receptors in the vicinity of the Roborough installation.

The following buffer distances were selected to limit the search:

- Ancient Woodlands, Local Nature Reserves, National Nature Reserves, Sites of Special Scientific Interest – 2km radius
- Special Areas of Conservation, Special Protection Areas, Ramsar sites – 10km radius

The following ecological receptors have been identified:

Eco Receptor	Distance from Site (km)	Direction
Unnamed Ancient Woodland	0.37	west
Hele Woods Ancient Woodland	1.2	northeast
Hatshill/Holt Wood Ancient Woodland	1.3	southeast
Unnamed Ancient Woodland	1.5	west
Unnamed Ancient Woodland	1.5	northwest
Ashleigh Blaxton Coppice Ancient Woodland	1.5	northwest
Southway Valley Local Nature Reserve	1.5	south
Unnamed Ancient Woodland	1.7	southwest
Plymouth Sound & Estuaries SAC	2.7	west
Tamar Estuaries Complex SPA	2.7	west
South Dartmoor Woods SAC	3	east
Dartmoor SAC	7	east

We have not assessed impacts on ecological receptors as there are no suitable assessment criteria (Environmental Assessment Levels/ Air Quality Objectives/ Environmental Quality Standards) for the additional substances to be released from the installation following the variation, most notably arsine and phosphine.

There are no [National Air Quality Objectives](#) for the protection of vegetation and ecosystems.

The online Air Emissions Risk [Guidance](#) from the Environment Agency & Defra does not include any environmental quality standards for arsine and phosphine with respect to protected conservation sites.

Arthian has also reviewed the Air Pollution Information System (APIS) [website](#). APIS has been developed in partnership by the UK conservation agencies and regulatory agencies and the Centre for Ecology and Hydrology (CEH). There is no mention of arsine or phosphine as pollutants within their listings.

The [JNCC](#) also does not refer to arsine or phosphine at this time. The JNCC's archive of research is also available here for cross-reference:

<https://webarchive.nationalarchives.gov.uk/ukgwa/20190405130828/http://jncc.defra.gov.uk/page-5976-theme=default>

The Institute of Air Quality Management [guidance](#) (A guide to the assessment of air quality impacts on designated nature conservation sites) does not make reference to arsine or phosphine.

Please note that the EA methodology for the derivation of Environmental Assessment Levels for chemicals which do not have established assessment criteria is based on the use of occupational exposure data and pertains only to the impact of the chemicals on human health.

**The derivation of criteria for ecological receptors is not possible.**

Question 6 – Provide your H1 assessment spreadsheet document completed for all new emissions and emission sources.

*You have provided conclusions from your H1 assessment only. Your H1 should include any existing emissions at the site if this variation may result in an overall increase.*

Supplementary question: You have not included an assessment of emissions for Disilane, Trimethylindium, Trimethylgallium, Trimethylaluminium or Bis(cyclopentadienyl)magnesium. As per our guidance ([Air emissions risk assessment for your environmental permit - GOV.UK](#)), where an environmental standard or environmental assessment level (EAL) is not listed for a substance you are assessing you can propose a new EAL.

**Arthian Response:** As requested, EALs have been derived for the additional substances to be used at the installation, where possible, from occupational exposure standards. Workplace Exposure Limits<sup>1</sup> (WEL) of similar compounds have been used to derive EALs for Si<sub>2</sub>H<sub>6</sub> and Cp<sub>2</sub>Mg.

It is noted that there are no exposure limits available for TMGa, or the expected compounds produced from the decomposition of TMGa (gallium and methane). As such, it is not possible to derive EALs for this substance.

The EA's H1 tool does not allow additional substances to be added to the assessment. As such, TMAI, TMLn, Si<sub>2</sub>H<sub>6</sub>, and Cp<sub>2</sub>Mg have been assessed through Arthian's own H1 assessment template, which uses the same methodology for the assessment.

**Table 1: Substance Environmental Assessment Levels**

Substance	Long Term EAL (µg/m <sub>3</sub> )	Short Term EAL (µg/m <sub>3</sub> )
TMAI	2000	-
TMIn	100	300
Si <sub>2</sub> H <sub>6</sub> (as Silane)	670	1,300
Cp <sub>2</sub> Mg (as Magnesium Oxide (as Mg))	4,000	-

The following table provides the expected emissions of these substances from emission point A3 following the proposed variation, based on guaranteed emissions data provided by equipment manufacturers. The emissions from emission point A6 will not be affected. All other data remain as per the details provided in the December 2025 variation application.

**Table 2: Release Concentrations for A3**

Substance	Concentration (mg/m <sup>3</sup> )
Disilane (Si <sub>2</sub> H <sub>6</sub> )	0.178
Trimethylindium (TMIn)	0.00024
Trimethylgallium (TMGa)	0.0071
Trimethylaluminium (TMAI)	0.0047
bis(cyclopentadienyl)magnesium (Cp <sub>2</sub> Mg)	0.0071

<sup>1</sup> <https://www.hse.gov.uk/pubns/priced/eh40.pdf>

The following tables then provide the long term and short term results for the H1 assessment of these substances.

**Table 3: Long Term Impacts Stage 1**

Substance	Stage 1	
	PC ( $\mu\text{g}/\text{m}^3$ )	% PC of EAL
TMAI	0.0005	<0.01%
TMIIn	<0.0001	<0.01%
Si <sub>2</sub> H <sub>6</sub> (as Silane)	0.019	<0.01%
Cp <sub>2</sub> Mg (as Magnesium Oxide (as Mg))	0.0007	<0.01%

**Table 4: Long Term Impacts Stage 2**

Substance	Stage 2		
	PC ( $\mu\text{g}/\text{m}^3$ )	Background Concentration ( $\text{mg}/\text{m}^3$ )	Total % PEC of EAL (Limit 70%)
TMAI	Screened		
TMIIn	Screened		
Si <sub>2</sub> H <sub>6</sub> (as Silane)	Screened		
Cp <sub>2</sub> Mg (as Magnesium Oxide (as Mg))	Screened		

**Table 5: Short Term Impacts Stage 1**

Substance	Stage 1	
	PC ( $\mu\text{g}/\text{m}^3$ )	% PC of EAL
TMIIn	0.0008	<0.01%
Si <sub>2</sub> H <sub>6</sub> (as Silane)	0.6907	0.05%

All impacts of the additional substances to be released from the installation are screened out as insignificant.