

## 5 METHODOLOGY

### 5.1 Introduction

- 5.1.1 Environmental Impact Assessment (EIA) is a process that identifies the potential environmental effects (both beneficial and adverse) of a proposed development and proposes mitigation to avoid, reduce and offset any adverse environmental effects. EIA is required where a proposed development is 'likely to have significant effects on the environment by virtue of factors such as its nature, size or location'.
- 5.1.2 This chapter sets out the approach that has been taken to complete the EIA of the Proposed Development, including reference to legal requirements, relevant guidance, and the assessment of parameters.

### 5.2 EIA Regulations, Guidance and Planning Policy

- 5.2.1 This EIA Report is prepared in accordance with the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2017, hereinafter referred to as the 'EIA Regulations'. This EIA Report contains the information specified in Schedule 4 of the EIA Regulations. The approach to the assessment has been informed by current best practice guidance, including the following:
- National Planning Framework (NPF 3)<sup>1</sup>;
  - Scottish Government Good Practice Guidance<sup>2</sup>;
  - Scottish Planning Policy<sup>3</sup>;
  - Scottish Government Planning Advice Note (PAN) 1/2013 (revision 1.0)<sup>4</sup>;
  - Planning Circular 1/2017: Environmental Impact Assessment Regulations<sup>5</sup>;
  - Historic Environment Scotland and NatureScot 'Environmental Impact Assessment Handbook' Version 5, 2018<sup>6</sup>;
  - Institute of Environmental Management and Assessments guidance documents including: Delivering Proportionate EIA<sup>7</sup>; Environmental Impact Assessment Guide to Shaping Quality Development<sup>8</sup>; and Environmental Impact Assessment Guide to Delivering Quality Development<sup>9</sup>;
  - Argyll and Bute Energy Action Plan<sup>10</sup>;
  - Argyll and Bute Landscape Wind Energy Capacity Study (Capacity Study 2017)<sup>11</sup>;

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<sup>1</sup> Scotland Third National Planning Framework. <https://www.gov.scot/binaries/content/documents/govscot/publications/advice-and-guidance/2014/06/national-planning-framework-3/documents/00453683-pdf/00453683-pdf/govscot%3Adocument/00453683.pdf>

<sup>2</sup> Scottish Government Energy Consents and Deployment Unit (2013) Good Practice Guidance

<sup>3</sup> The Scottish Government, Edinburgh. 2014. Scottish Planning Policy. <https://www.gov.scot/binaries/content/documents/govscot/publications/advice-and-guidance/2020/12/scottish-planning-policy/documents/scottish-planning-policy/scottish-planning-policy/govscot%3Adocument/scottish-planning-policy.pdf>

<sup>4</sup> Scottish Government (2013, revised 2017) Planning Advice Note 1/2013 (revision 1.0): Environmental Impact Assessment.

<sup>5</sup> Scottish Government (2017) Planning Circular 1/2017: Environmental Impact Assessment Regulations 2017.

<sup>6</sup> Historic Environment Scotland and NatureScot 'Environmental Impact Assessment Handbook' Version 5, 2018. <https://www.historicenvironment.scot/archives-and-research/publications/publication/?publicationId=6ed33b65-9df1-4a2f-acbb-a8e800a592c0>

<sup>7</sup> IEMA (2017). Delivering Proportionate EIA. Lincoln: IEMA

<sup>8</sup> IEMA (2015). Environmental Impact Assessment Guide to Shaping Quality Development. Lincoln: IEMA

<sup>9</sup> IEMA (2016). Environmental Impact Assessment Guide to Delivering Quality Development. Lincoln: IEMA

<sup>10</sup> Argyll and Bute Energy Action Plan. <https://argyll-bute.maps.arcgis.com/apps/MapJournal/index.html?appid=cc865cd9c1224fadacae3a0ebd4c491f>

<sup>11</sup> Argyll and Bute Landscape Wind Energy Capacity Study (Capacity Study 2017) <https://argyll-bute.maps.arcgis.com/apps/MapJournal/index.html?appid=cc865cd9c1224fadacae3a0ebd4c491f>

- SNH (1996) Landscape Assessment of Argyll and the Firth of Clyde (Review No78)<sup>12</sup>;
- Argyll and Bute Woodland and Forestry Strategy (2010)<sup>13</sup>; and
- Scottish Government Policy Document on Control of Woodland Removal (2019)<sup>14</sup>.

5.2.2 An overarching technical assessment methodology is summarised in **Plate 5.1**. An overview of the guidance and methodology adopted for each technical study is provided within the respective technical chapters of this EIA Report (**Chapters 6 to 13**).

5.2.3 The scope of the EIA Report has been informed by the Scoping Opinion, discussed further within **Chapter 4: EIA Consultation and Scope (EIAR Volume 2)**.

### 5.3 EIA Quality

5.3.1 In accordance with regulation 5(5) of 2017 EIA Regulations, the EIA Report has been compiled and approved by professional EIA practitioners at Ramboll, holding relevant undergraduate and post-graduate degrees, and/or membership of IEMA (MIEMA) and Chartered Environmentalist (CEnv) status with the Society for the Environment.

5.3.2 The EIA Report meets the requirements of the Institute of Environmental Management and Assessment (IEMA) EIA Quality Mark scheme. This is a voluntary scheme operated by IEMA that allows organisations to make a commitment to excellence in EIA and to have this commitment independently reviewed on an annual basis.

5.3.3 Each of the technical chapters provides details of the relevant professional memberships of the authors and code of practice followed in order to confirm relevant competence. The chapters also include details of the assessment methodology used, including the specific criteria for defining the sensitivity of the baseline environment, quantifying the magnitude of change and for assessing whether the effects are deemed significant or not significant under the terms of the EIA Regulations. The following provides a summary of specialist consultants appointed by the Applicant for this EIA Report:

- EIA Co-ordination and EIA Report production - Ramboll UK Limited;
- Ecology and Ornithology - Ramboll UK and Lawrence Environmental Consultants Ltd;
- LVIA and RVAA - Ramboll UK Limited;
- Archaeology and Cultural Heritage - CFA Archaeology;
- Hydrology, Hydrogeology, Geology and Soils - Ramboll UK Limited;
- Noise and Vibration - Wood Group;
- Forestry – Scottish and Southern Electricity Networks; and
- Traffic and Transport – Pell Frischmann.

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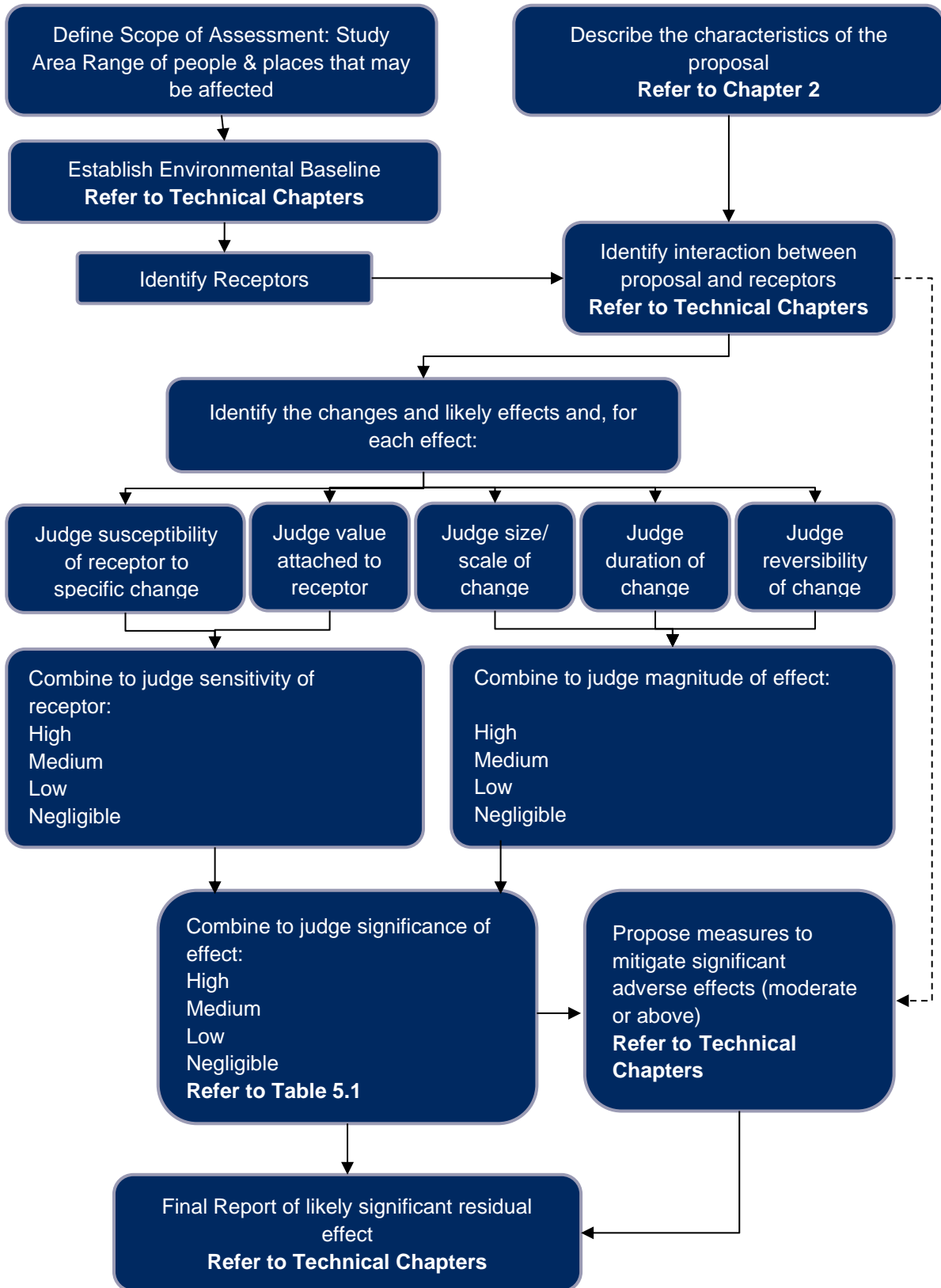
<sup>12</sup> SNH (1996) Landscape Assessment of Argyll and the Firth of Clyde (Review No78) <https://www.nature.scot/sites/default/files/2018-01/Publication%201996%20-%20SNH%20Review%2078%20-%20Landscape%20assessment%20of%20Argyll%20and%20the%20Firth%20of%20Clyde.pdf>

<sup>13</sup> Argyll and Bute Woodland and Forestry Strategy (2010) <https://www.argyll-bute.gov.uk/sites/default/files/planning-and-environment/Woodland%20and%20Forestry%20Strategy%20Consultation%20Draft.pdf#:~:text=The%20Argyll%20and%20Bute%20Woodland%20and%20Forestry%20Strategy,contribute%20to%20the%20economy%2C%20communities%20and%20the%20environment?msclkid=396605a6a6be11eca6f4c1552d3c7b94>

<sup>14</sup> Scottish Government Policy Document on Control of Woodland Removal(2019) <https://forestry.gov.scot/publications/349-scottish-government-s-policy-on-control-of-woodland-removal-implementation-guidance/viewdocument/349>

## 5.4 Identification of Baseline Conditions

- 5.4.1 To identify the scale of likely significant effects as a result of the Proposed Development, it is necessary to establish the existing baseline environmental conditions. The baseline scenario was established through the following methods, where relevant:
- Site visits and surveys;
  - Desk-based studies;
  - Review of existing information;
  - Modelling;
  - Review of relevant national and local planning policies;
  - Consultation with the relevant statutory consultees; and
  - Identification of Sensitive Receptors.
- 5.4.2 The environmental baseline adopted for the purposes of the EIA is stated in each of the technical assessment chapters provided in the EIA Report. The baseline is normally taken as the current character and condition of the site and surrounds, and the likely significant environmental effects of the development are then assessed in the context of the current conditions.
- 5.4.3 The general approach to the assessment of environmental effects is described in **Section 5.5** and summarised in the flow diagram in **Plate 5.1**. Any variation to this approach is described within the respective technical chapters of this EIA Report (**Chapters 6 to 13**).



**Plate 5.1: Summary of EIA Assessment Methodology**

## 5.5 Assessment of Likely Significant Effects

- 5.5.1 The next stage in the EIA process was to complete an impact assessment to address the likely significant effects remaining following the implementation of mitigation by design<sup>15</sup>. An assessment chapter has been provided for each issue where it is considered that there are likely significant effects associated with the construction<sup>16</sup> and operational<sup>17</sup> phases of the Proposed Development.
- 5.5.2 Decommissioning effects are analogous to construction effects but considered to be less significant as no excavation is likely to be required; smaller machinery is generally used and the duration of decommissioning works is shorter, therefore no separate assessment of decommissioning effects has been undertaken.
- 5.5.3 The characteristics of an effect will vary depending on the duration of the activity, the sensitivity of the receptor and the resultant change. Therefore it is necessary to assess whether the effect is temporary or permanent; beneficial or adverse and direct or indirect. Temporary effects are usually reversible and generally confined to the construction period. For the purposes of this EIA Report the terms used in the assessment are defined as follows:
- Impact - is specific and defined as the action being taken, for example, cutting down trees;
  - Effect - is defined as the change resulting from that action, for example, loss of habitat;
  - Temporary - where the effect occurs for a limited period of time and the change at a defined receptor can be reversed;
  - Permanent - where the effect represents a long-lasting change at a defined receptor which is not reversible;
  - Direct - where the effect is a direct result (or primary effect) of the Proposed Development;
  - Indirect - a knock-on (or secondary) effect which occurs within or between environmental components, may include effects on the environment which are not a direct result of the Proposed Development, often occurring away from the proposals or as a result of a complex biological or chemical pathway;
  - Secondary - an induced effect arising from the actions or presence of a project, such as changes to the pattern of future land use or improvements to local road networks;
  - Cumulative - these effects may arise when more than one development of a similar scale and nature combine to create a potentially greater impact than would result from the Proposed Development alone (see also **Section 5.5** below);
  - Beneficial - an effect beneficial to one or more environmental receptors; and
  - Adverse - a detrimental, or negative, effect on one or more environmental receptors.
- 5.5.4 Where a more appropriate definition of the above terms is applicable to a technical discipline this is clearly outlined with the technical chapters (**Chapters 6 to 13**).

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<sup>15</sup> Mitigation by Design is the act of incorporating measures into the development of the design and thereby minimising the risks to the project and the local environment.

<sup>16</sup> This period covers the effects arising from the enabling works, construction works, commission and reinstatement.

<sup>17</sup> This period covers the effects arising from the existence of the Proposed Development, including its operation and maintenance activities.

## Significance Criteria

- 5.5.5 The outcome of the assessment is the determination of whether the likely effect of the Proposed Development on the receptor in the Study Area would be significant or not significant, and adverse or beneficial. Several criteria have been used to determine whether or not the likely environmental effects of the Proposed Development will be deemed 'significant'. The effects have been assessed quantitatively where possible. Generally, the significance of effects has been assessed using one or more of the following criteria:
- international, national, and local standards;
  - sensitivity of receiving environment;
  - extent and magnitude of the effect; and
  - reversibility and duration of the effect.
- 5.5.6 The assessment of significance has considered the magnitude of change (from the baseline conditions), the sensitivity of the affected environment receptors and (in terms of determining residual effects) the extent to which mitigation and enhancement will reduce or reverse adverse effects. In addition, further influences such as those listed below have been factored into the assessment using professional judgement:
- likelihood of occurrence;
  - geographical extent;
  - the value of the affected resource;
  - adherence of the Proposed Development to legislation and planning policy; and
  - reversibility and duration of the effect.
- 5.5.7 The sensitivity of the receptor/ receiving environment to change has been determined using professional judgement, consideration of existing designations (such as Sites of Special Scientific Interest (SSSIs)) and quantifiable data, where possible. The scale generally used high, medium, low, and negligible criteria, as outlined in **Table 5-1**. As above, methodologies are defined within each of the technical **Chapters (6 to 13)** where they differ from this approach.
- 5.5.8 The magnitude (scale) of change for each effect has been identified and predicted as a deviation from the established baseline conditions, for the construction and operational phases of the Proposed Development. The scale generally used high, medium, low, and negligible criteria, as outlined in **Table 5-1**; each of the technical **Chapters (6 to 13)** defines the scale used for its methodology, where it differs from below.
- 5.5.9 Each effect has been assessed taking account of the predicted magnitude of change and the sensitivity of the receptor as shown in **Table 5-1** to determine an overall significance.

**Table 5-1: Matrix for Determination of Significance Effects**

Sensitivity of Receptor / Receiving Environment to Change	Magnitude of Change			
	High	Medium	Low	Negligible
High	Major	Major	Moderate	Negligible
Medium	Major	Moderate	Minor	Negligible
Low	Moderate	Minor	Minor	Negligible
Negligible	Negligible	Negligible	Negligible	Negligible

5.5.10 Major and moderate effects are considered to be significant in the context of the EIA Regulations. Minor and negligible effects are not usually considered significant. The level of significance is identified in the methodology of each of the technical **Chapters (6 to 13)** of this EIA Report.

## 5.6 Identification of Mitigation Measures

5.6.1 The impact assessment is used to identify where additional mitigation is required to address likely significant effects, where it has not been possible to avoid the effect through design (**Chapter 2: Description of the Proposed Development (EIAR Volume 2)**) of the Overhead Line (OHL) and micrositing of tower locations. Mitigation has been considered following a hierarchy of first seeking to avoid effects, followed by seeking a reduction in effects to a level not considered significant, and finally where necessary and possible, offsetting, or compensatory measures are considered.

5.6.2 Each technical chapter details the measures recommended to mitigate any identified significant effects, and a summary of the recommended mitigation measures are provided in **Chapter 15: Schedule of Environmental Mitigation (EIAR Volume 2)**.

5.6.3 Following the implementation of mitigation measures, an assessment of the significance of any residual effects has been undertaken. The findings are presented in each **Technical Chapter (Chapters 6 to 13)** of this EIA Report.

## 5.7 Cumulative Effects

5.7.1 There are two aspects to Cumulative Effects, defined as follows:

- Inter-cumulative effect: The combined effect of the Proposed Development together with other reasonably foreseeable developments (taking into consideration effects at the site preparation and earthworks, construction, and operational phases); and,
- Intra-cumulative effect: The combined or synergistic effects caused by the combination of a number of effects on a particular receptor (taking into consideration effects at the site preparation and earthworks, construction, and operational phases), which may collectively cause a more significant effect than individually. A theoretical example is the culmination of disturbance from dust, noise, vibration, artificial light, human presence, and visual intrusion on sensitive fauna (e.g. certain bat species) adjacent to a construction site.

5.7.2 A search for other developments was undertaken in April 2022. This considered developments recorded as consented (under construction or not yet constructed), those in planning and those within the public domain, deemed reasonably foreseeable, within 15 km<sup>18</sup> of the OHL. In addition to this, **Chapter 7: Ornithology** will consider any other relevant (as above) developments (constructed and built developments) within Natural Heritage Zone 14 "Argyll West and Islands".

5.7.3 The individual technical **Chapters (6 to 13)** present the findings of the assessment of Inter-cumulative effects of the Proposed Development with other schemes. A list of considered developments (agreed with Statutory Consultees), a summary of effects and an assessment of cumulative effect interactions arising from the Proposed Development on certain sensitive receptors are described in **Chapter 14: Cumulative Effects** and illustrated on **Figure 15.1 (EIAR Volume 3a)**.

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<sup>18</sup> Based on relevant guidance, consultation as well as professional judgement of technical specialists.



## 5.8 Assumptions and Limitations

5.8.1 The key assumptions and limitations are set out below, with those specific to certain topics identified in the appropriate technical **Chapter (6 to 13)**.

- Baseline Conditions have been established from a variety of sources, including historical data<sup>19</sup>, however due to the dynamic nature of certain environmental aspects, conditions will change during the construction and operation of the Proposed Development.
- Information received from third parties is complete and up to date.
- The design, construction and completed stages of the Proposed Development will (at least) meet minimum environmental standards, consistent with current legislation, practice, and knowledge.

## 5.9 Co-ordinated Assessment with Habitat Regulations Appraisal (HRA)

5.9.1 The Conservation (Natural Habitats &c.) Regulations 1994 (as amended) (“The Habitat Regulations”) requires consenting authorities to decide whether or not a project may have a likely significant effect on a European site, either alone or in combination with other plans or projects<sup>20</sup>. This process is known as HRA. The overarching aim of an HRA is to determine, following an Appropriate Assessment of the implications for the site in view of that site’s conservation objectives, whether the project will adversely affect the integrity of the European Site.

5.9.2 The Glen Etive and Glen Fyne Special Protection Area (SPA) was most recently designated in 2010 for supporting a population of breeding Annex 1 species golden eagle *Aquila chrysaetos* (the qualifying interest) of European importance. It comprises two discreet areas one centred on Glen Etive and the other on Glen Fyne. The Proposed Development lies 100 m to the east of the Glen Etive and Glen Fyne SPA. As such, there is potential connectivity between the Proposed Development and the SPA. The potential effects of the Proposed Development on these designations have been assessed during an HRA Stage 1 Screening Assessment (**Technical Appendix 7.3: HRA, EIAR Volume 4**), which accompanies the s37 application.

5.9.3 Whilst the overall aims of the EIA and HRA are aligned, their scope, level of details and terminology vary. Therefore, these processes have been undertaken separately. However, the scope presented within the EIA Reports has been developed to ensure that the needs of these processes have been considered to ensure a coordinated assessment, compliant with Regulation 48<sup>21</sup>.

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<sup>19</sup> Information from previous assessments which provides an understanding of the environmental background within Proposed Development location and helps inform the assessment and survey requirements.

<sup>20</sup> The term ‘European site’ is being used to refer to what were previously known as ‘Natura’ sites. This recognises that Special Protection Areas (SPAs) and Special Areas of Conservation (SACs) protect species and habitats shared across Europe and were originally designated under European legislation.

<sup>21</sup> <https://www.legislation.gov.uk/ukksi/1994/2716/regulation/48/made>