



[REDACTED]

The [REDACTED] Animal Welfare and Ethical Review Body

Tuesday 30th March 2021

2pm [REDACTED] Microsoft teams

Minutes

1. Attendance and apologies.

Apologies
[REDACTED]

2. Minutes of last meeting:

The AWERB committee minutes were accepted as true record of the previous meeting that took place on the 22nd February 2021

3. Matters arising/Action points

- *GA Large animal PPLs*: consider a discussion group to discuss the use of GA PPLs going forward. Update: [REDACTED] to oversee formalising a short guidance document for the use of the LA GA service licence. In particular, this should emphasise the likelihood that separate licences will be necessary to cover any phenotyping work likely to result in adverse effects of moderate severity.
- *PURE*: discussions are ongoing with regards to the addition of publication details and home office licence details to PURE: Action: [REDACTED] will update the committee in due course with progress in this area

4. Licences *submitted* to Home Office since the last AWERB meeting

New Project licences

PL02-21 [REDACTED]

PL32-20: [REDACTED]

Amended Project licences

none

5. New project licence Presentations:

PL06-21: the broad aim of the PPL will directed towards understanding the development and function of the avian immune system. Questions: comparison of moderate versus mild phenotypes: Noted that birds with a moderate phenotype are viable/fertile etc. but some birds, for example birds with [REDACTED] knockouts, may have a compromised immune system which will need consideration. The PPL has a separate breeding protocol for moderate phenotypes, noted that there was no disease challenge on this PPL.

PL07-21: overall purpose is to understand aspects of [REDACTED]

[REDACTED] The licence has 7 protocols in total with several breeding and maintenance type protocols and the rest aimed at the developmental biology work. Noted that these new licenses are a move away from broader style licences, providing justification for, and appropriate detail in relation to, planned experiments directed towards the stated aims. As such it was noted that novel work/lines emerging from this licence may require additional licence under new PPL(s).

PL08-21:

This is a new licence specifically to cover breeding and maintenance of poultry, there will be no scientific objectives in this PPL. The vast majority of birds will be covered under a mild breeding protocol. Whilst protocol 2 accommodates birds with moderate phenotype it was noted that strategies are underway to reduce this likelihood in future.

6. **Project licence applications under consideration**

General points: Noted that these 3 licences will replace a single existing PPL, and in addition provide a general service PPL which will be helpful for several scientists. Noted that several lines held on the service PPL will generate income from accommodating other scientific needs as well as through sales of eggs from a proportion of lines. Noted the need for constant reappraisal of the ethical justification for maintaining unproductive lines.

PL06-21:

Discussion points:

- **Protocols:** Noted that the protocols are very well laid out and are consistent with the plan of work. The steps involved and animal experience is well stated.
- **Adverse effects:** Noted differences in the potential adverse effects (survival efficiencies) associated with alternative windowing methods should be acknowledged and application justified.
- **NTS:** this was generally really well written and (mostly) in lay language, some revision to the numbers in the reduction section is needed as the numbers currently do not concur with the licence.
- **NTS:** some identifiers (e.g. [REDACTED]) remain and should be removed.
- **NTS:** some explanation of some terms (e.g. GA) need clarified.
- **Funding:** further elaboration is required in relation to the nature and extent of secured and anticipated funding to cover the proposed research.
- **Decision:** approved subject to consideration of minor points

PL07-21

Discussion points:

- **Funding:** further elaboration is required in relation to the nature and extent of secured and anticipated the funding sources were not completely clear and should be clarified to cover the proposed research
- Whilst the justification of employing [REDACTED] was explained on presentation, continued use of relatively inefficient techniques will require ongoing cost:benefit analysis.
- **Moderate breeding:** in some strains anticipated immunodeficiency may render it more appropriate that they be bred as moderate animals.

Decision: approved subject to consideration of minor points

PL08-21

Discussion points:

- **Service licence:** Clarify that this is a service licence, the application does not mention this, this needs to be set out clearly early in the application.
- **Animals with phenotypes:** [REDACTED] line, clarify that this line should only be held on the service licence and not on the two scientific licences (PL06 and PL07). Birds can then be moved to these licences as continued use for experimental work.
- **Numbers** have been set at 3600, consider whether this should be revised and if necessary increased.

Decision: Approved subject to consideration of minor points.

7. PPL amendments under consideration by the AWERB

A11-21

This project licence uses gene editing approaches to [REDACTED]. It was clarified that the gene editing aspect happens at this establishment and the infection part elsewhere.

Noted that the ability to move animals between licensed establishments will also be added as this is not currently in the PPL.

Approved for submission: no changes required

Presentation [REDACTED]

A05-21: minor amendment to include the use of NMBA's to facilitate intraocular gene therapy approaches. It was noted that whilst the perceived need for NMBA's was considered highly unlikely, the provision for such use would provide a secure foundation for delivery in any event. If required the use of NMBA will not have an impact on the function of the eye itself:

Approved for submission.

A07-21: studies will focus on [REDACTED]. In the former context, pigs transgenic [REDACTED] will move to a separate licence consistent with addressing scientific objectives enabled by their creation. The latter [REDACTED] transgenic pig model is anticipated to lead to [REDACTED], which will be monitored using MRI. It is considered unlikely that any adverse effects arising as a result of this work will lead to clinically overt phenotypes in the animals.

Questions: can non-invasive blood pressure measurements be taken? This perception was stated that this could be achieved by using the tail for monitoring, and carefully familiarising animals with the technique.

Discussion:

- **██████ model:** Noted that whilst considered unlikely at the outset, aspects of the proposed ██████ work may lead to moderate clinical phenotypes, the management and assessment of which would be more appropriately covered under separate licence – this latter perception in the spirit of advice received from the HOI (December 2020 AWERB). Care should therefore be taken towards limiting the potential for this occurrence. In particular *in vitro* approaches to further minimize the potential for baseline transgene expression were reportedly underway and will be considered before a decision is made.
- **Licence purpose:** this large licence should remain focused on the primary aim of generating LA GAA animals, with the anticipation that the availability of such models will provide the basis for further, objective-led PPLs held by PIs with specific expertise in the relevant scientific field.
- **Phenotyping:** The amendment, in proposing to also evaluate the phenotype associated with the genetic modification places considerable responsibility on the PPL holder in overseeing experiments in which outcomes and adverse effects are unpredictable. Whilst the team driving the ██████ model has the expertise to define the translational relevance, and oversee and advise on the necessary assessment and appraisal criteria, and treatment options informed by human experience – such expertise would most appropriately lie with the PPL holder. In this regard, the anticipation would be that transgenic animals should be moved off this licence to a licence more appropriately geared towards phenotyping, and with relevant objectives driving the science. Action: there are no issues with the production of the models however for phenotyping purposes a separate PPL will be required.
- **Noninvasive Blood pressure assessment:** this won't be a regulated procedure.
- **Monitoring transgenic animals:** Additional work to be done with regards to the monitoring of both the ██████ and ██████ transgenic pigs.

Summary: approval can be offered subject to provision of evidence indicating that baseline transgene expression is unlikely to occur. Comments will be fed back to ██████ for consideration.

8. Ethics, 3Rs and the culture of care:

Raising concerns poster has been revised and circulated to users.

9. Statistics and experimental design: no report tabled

10. NVS and NTCO update

NTCO update: looking at developing updated guidance for personal licence holders. This will be presented at the May 2021 AWERB. A recent incident has prompted this focus, and a review is underway to consider the following groups of people:

- Personal licence holders who have not used their licences for some time.
- Personal licence holders without training records.
- Personal licence holders with species that have not been used for some time.

NVS update LA: currently very busy with licences, no other issues to report.

NVS update poultry: Pecking issues seem to be resolving, a number of poultry licences currently under preparation.

11. PEL Holder update: In dialogue with the home office about re-training for PILs, noted that other actions underway following the recent home office risk meeting.

12. Reports from Facilities

Farms & [REDACTED] update ([REDACTED]):

- Lambing of the [REDACTED] sheep in progress
 - [REDACTED]: home office report not received yet, until the report is available PEL designation is not possible.
 - Some equipment already moved which may cause issues if there are further delays.
- [REDACTED] are that the report will be available and the building open by the start of May.

- Busy with students and teaching commitments now completed.
- Other scientific projects moving forward

Poultry ([REDACTED] and [REDACTED]):

- Repairs to the facility following recent high winds.
- [REDACTED]: some staffing pressure due to leave and illness, no immediate concerns, to be reviewed and will update the committee.
- Immunocompromised lines: plans in place for these new lines, looking at a standard format for dealing with these lines, considering monitoring and adverse effects.
- Health screening in [REDACTED]: to allow easier shipment of eggs through Europe.

Avian egg facility: no issues to report.

Aquaculture facility updates: none tabled

13. **Overseas research project: OS1-21:** retrospective analysis of project where samples have already been collected under the auspices of a project for which appropriate ethical review was conducted.

Discussion and feedback to applicant:

- Were these birds culled for the purpose of this project only and/or will samples be utilised for other studies as well to make maximum use from these birds.
- Mention is made of birds in lay being included in the study, would this potentially have included birds having chicks on nest?

14. A.O.C.B:

15. Date of next meeting: May 24th 2pm, Microsoft Teams.