OUT22/7705 – Letter from the CEO to the committee chair concerning non-consensus submissions and the CEO's decision and comments in regard to each of these cases



Mr

Narrabri NSW 2390

16 June 2022

Our ref: OUT22/7705

File: BN22/2153

Dear Mr

Subject: Resolution of non-consensus matters

Thank you for the opportunity to meet with you and the other members of the Healthy Floodplains Review Committee on 8 June 2022. It was very useful for me to hear the range of views from committee members concerning the matters on which you have been unable to reach consensus.

I have now examined this feedback, together with the individual reports provided to me by the committee members and advice from my staff that have been directly involved in these matters. After careful consideration, I have decided to accept the advice of the department in respect of all 32 non-consensus submissions.

I would also like to make some observations concerning the work of the committee which may facilitate its future deliberations. In 2021 I instigated a review of the Committee's terms of reference (ToR) the purpose of which included providing assistance to the committee by clarifying its role. I want to emphasise that the committee's prime purpose is ensuring procedural fairness for landholders affected by the rollout of floodplain harvesting access licences.

Analysis of the members individual reports indicates to me that some of the reasons for nonconsensus go beyond assessing submissions solely on their merits and in some cases seem to be based on conflicting views and policy positions rather than ensuring procedural fairness for the landholders making submissions.

My responses to the issues raised by the committee members who did not agree with the advice provided by the department in regard to landholder submissions are set out in Attachment A.

For full transparency, the Healthy Floodplains Team will provide the committee with the entire briefing package that I received from my staff on these matters. You will notice that the specific circumstances of each individual case have been presented to me for my consideration in addition to the member reports.

I take this opportunity to again thank you and the committee for the very important role that you play in the delivery of this critical piece of water reform. Your work will significantly contribute to ensuring the accuracy of information used in the implementation of the NSW Floodplain Harvesting Policy. This will not only benefit the project but will also be advantageous in water management generally.

Yours sincerely,



Chief Executive Officer - NSW Water Sector



Attachment A – responses to non-consensus issues

Issue	Response
Submitted by Nature Conservation nominee	e to the Healthy Floodplains Review Committee
Macquarie modelling submissions	
Significant concern that the assessment process in the Macquarie was very rushed, causing staff to be under undue pressure to meet deadlines. The Macquarie model has significant issues, many outlined in the model build report and there was, apparently, not adequate funding to gain access to all relevant satellite imagery.	I note these comments but point out that independent peer review assessment reports of the models that are published on the department's website do not support these views. NSW is in the process of having these revised models formally assessed by the MDBA. Licence allocations can be adjusted in response to future model improvements without triggering compensation under the <i>WMA 2000</i> .
Changes to the modelling for Bulgeregar Creek have resulted in an additional 5,196 ML being available for floodplain harvesting under the long term annual average diversion determinations for the properties along the creek.	I am satisfied that the revised estimates are demonstrably better than the previous estimates. This is consistent with the department's publicly stated objective of using the best available information so that the model accurately replicates observed overbank flow events.
	Independent peer review assessment reports of the models are published on the department's website. Collectively, these reports demonstrate how the proposed framework will comply with statutory limits.
	NSW is in the process of having these revised models formally assessed by the MDBA. I also point out that licence allocations can be adjusted in response to future model improvements without triggering compensation under the <i>WMA 2000</i> .



Issue	Response
The assessment of developed or cropped areas has not been undertaken using best available information or multiple lines of evidence. The model build report states that a conservative approach to planting behaviour in 2008 was taken. However, quite large changes to cropped area are proposed in the model review process in the Macquarie. This has caused a significant increase in modelled long term annual average diversion determinations.	The department's assessment of developed areas used multiple lines of evidence, where available: • satellite imagery • irrigator behaviour questionnaires • farm maps provided by landholders
	I am satisfied that there are no other known sources of fit-for-purpose information that could be used. Independent peer review assessment reports of the models are published on the department's website. There were nine landholder submissions received that disputed the

ons received that disputed the department's assessment of developed and undeveloped areas in the Macquarie Valley. The committee unanimously agreed to reject two of the cases and accept one, in line with the department's advice. In the remaining six cases the committee could not reach a consensus decision.

Whether the estimates increased or decreased is not a relevant consideration. What is relevant is that the information being used is the best available.

I note that the same lines of evidence were used for both the nonconsensus and consensus submissions. I note that the NCC nominee has accepted this evidence in the cases where there was no change to the developed area and modelling statistics but has rejected those submissions where the evidence demonstrated that an increase in developed area was warranted.



Issue	Response
Concern about the decision to use observed flows at Mungindi for the Border Rivers inflows and modelled flows for Gwydir, Namoi and Macquarie inflows. This demonstrates a direction to lock in history of use, rather than a precautionary approach to model development, and also lack of consistency in approach. This approach will cause a 10.5% increase in floodplain harvesting determinations.	The Plan Limit and Current Conditions scenarios would continue to use modelled inflows at Mungindi to estimate growth in water use, and the eligible works scenario (the only scenario which will use observed flows at Mungindi) informs the distribution of the permitted water use across individual properties. Observed flows at Mungindi will allow the most accurate distribution of licence shares.
	Independent peer review assessment reports of the models are published on the department's website.
The lack of data for rainfall runoff has caused a broad range of modelling decisions that are based on history of use and not on a precautionary approach.	I am advised that has reviewed the methods used by the modellers and has made the following comment: Arid regions in the catchment, especially to the western side of the Barwon Darling, have very sparse data (because of a lack of rainfall). Approximations of the hydrology have been undertaken using data from similar landscapes in Queensland for which data is available and relatively robust. Using this data is appropriate given that there is no other available information, but it again highlights an area for further analysis and research. Independent peer review assessment reports of the models are published on the department's website.
Changes to access to flow heights in the hydraulic model may impact on flood flow considerations in the Barwon-Darling Floodplain Management Plan.	Three properties contested the flow heights used in modelling. Analysis of these submissions indicated that it was reasonable to lower the flow height at which floodplain harvesting was able to commence. Evidence used included LiDAR, satellite imagery and landholder photos.



Issue	Response
Does not support the inclusion of an additional 600 ML in storage. The application lodged prior to 2008 and approved in 2010 was not constructed. There is no ability to assess the storage capacity of the application lodged prior to 2008, as has occurred in all other storage decisions, applying a 1m freeboard.	Increase in storage volume is based on the volume noted in the Part 8 plan of works drafted in March 2010, which notes the increase in existing 100 ML storage to 600 ML was part of the application lodged prior to 2008 (1991). This fits within the FPH policy as being an eligible work.
Reversed my decision on increasing the pump rate for 3 pumps from 80ML/day to 130ML/day and 2 pumps from 80ML/day to 150ML/day because the required evidence for increased pump capacity has not been supplied in a consistent manner. Staff did not inspect specification plates showing the size of the pumps.	Photographs of pumps and specification plates (where available) photographs of gearboxes and specifications for all but two pumps engineer's report, and statutory declaration regarding pump size and capacity Information, as requested has been supplied to substantiate claimed output by a pump engineer. The pumps in question were manufactured locally and no pump curves are available. The supporting information supplied by the landholder is consistent with the multiple lines of evidence accepted by the committee for similar submissions in the earlier valleys.

4. Macquarie audit of eligible works submission



Issue	Response
Does not support that the applicant's information or follow up information supplied by demonstrates that the work is not reasonably likely to affect flow to or from a river.	Evidence supplied by the registrant, and further analysis by the department shows that the storage in question did not require a controlled work approval as the storage was not likely to affect the flow of water to or from the river and is not within the Macquarie floodplain. The department supports the change from ineligible to eligible.
	NB the storage is integral to the floodplain harvesting system for this property, as It is used to store water captured by other eligible floodplain harvesting works. It is considered to be an eligible work despite not being located on the designated floodplain. This conforms with the provisions of the NSW Floodplain Harvesting Policy (page 4) which states that "the policy applies to all areas of all properties, where all or part of the property lies within the designated floodplain. To remove any doubt, the policy applies to all areas of the property, irrespective of whether parts of the property are developed for irrigation or not".
	The practice of determining such works as being eligible was ratified by the Healthy Floodplains Project Implementation Group at its meeting on 17 August 2020 (CM9 Ref INT20/242753). The group approved that:
	All floodplain harvesting works be included as eligible that, other than for their location outside the designated floodplain, would be considered to be eligible in accordance with the provisions of the NSW Floodplain Harvesting Policy. This is subject to the proviso that the lands where the works are located must be part of a contiguous landholding that is represented in an eligible floodplain harvesting ROI.
	The subject storage ticks all the boxes for approval as an eligible work.



Issue	Response
5. Namoi unregulated entitlement submissions	
There is no evidence supplied that there were existing eligible floodplain harvesting works in 98/99 with the capability of capturing 2,008.25 ML.	Capability assessments are not required for unregulated properties. Aerial images were supplied for N108, covering the time in question. Fields are shown to be inundated and the development of fields is obvious.
There is no information supplied in relation to 98/99 being the highest crop year between 93/99. The volumetric conversion information outlines that different crop years were used for different licences	I am advised that the landholder's submission clearly indicated that 1998/99 was the highest crop year. The image provided by the department was identical to that used in the submission. The figure of 1583ha was used in calculations. The property has been assessed as a whole. If assessed using individual licences the result would be the same.
Other than reference to unauthorised works on the property capable of floodplain harvesting there is no evidence supplied that there were existing eligible floodplain harvesting works in 98/99 with the capability of capturing 3,284.25 ML The aerial photos provided are inconclusive and 1998 photo does not give clear evidence of crops.	Capability assessments are not required for unregulated properties. The aerial image provided is dated 10/7/98 so it does not show summer cropping. It does clearly show flooding, water across fields and full storage on the property. Channels capable of intercepting flood waters can be seen.
There is no evidence supplied that there were existing eligible floodplain harvesting works in 96/97 with the capability of capturing 274.5 ML. The diagram of current floodplain harvesting capability includes a storage that was built in 1999.	Capability assessments are not required for unregulated properties. Storage size does not influence the entitlement calculation.



Issue	Response
The calculations are based on 98/99 being the highest crop year and the diagrams giving field area (submission p6) is based on 94/95 satellite image.	The submission image is from 6 th January 1999 and matches the department's image date the 5 th January 1999. The field delineation image is also from 1999. Therefore, assertions that there is a mismatch between the year used for the highest cropped area compared with the evidence provided are incorrect.
The configuration of floodplain harvesting works in the diagram on p 20 does not indicate whether this is the current capability or that available in 98/99. The 1600ML storage was constructed in 98 but is not evident in the satellite map.	Inspection of the property on 3.4.17 by departmental officers established that there were works installed that conformed with the eligibility criteria prescribed by the NSW Floodplain Harvesting Policy. As been determined as being an unregulated only floodplain harvesting
It is not conclusive from aerial photos provided that the delineated 26.4 ha field at far left is a developed area.	property, a capability assessment of the works was not required. Therefore, it is not relevant whether the works described in the diagram
There is no evidence supplied that there were existing eligible floodplain harvesting works in 96/97 with the capability of capturing 1,894 ML.	represented current or 98/99 capability. The image shows that the 26.4ha field is the same as the other fields highlighted as being developed and planted.
	Capability assessments are not required for unregulated properties.



Issue	Response
a) There is no information provided to confirm that 1933 ML of groundwater was used in 95/96	The information provided was based on an annual total and not split between bore licences. As detailed in the submission review template, only yearly totals are available for the years 1993/94 and 1995/96.
b) There is no description of which fields are used to calculate 590.2 ha of irrigated land in 95/96c) The property map provided on p 14 is of current works and does not	The submission was not required to provide this information. The department used its own remote sensing analysis. The method of analysis has been provided to the committee and endorsed by the department.
provided evidence of floodplain harvesting capability in 95/96 d) The 3 storages identified in the property works map were constructed in 98 & 99.	The Registration of Interest form is only provided due to previous requests from the committee. It has no bearing on the calculation of entitlement.
e) There is no evidence supplied that there were existing eligible floodplain harvesting works in 95/96 with the capability of capturing 2,493.875 ML.	If there are eligible works capable of floodplain harvesting between 1993-99 then they are eligible for a share component. Capability assessments are not required for unregulated properties.
N272 The satellite imagery shows three areas of pivot irrigation. There is no evidence of floodplain works or storage capacity. Rainfall could have provided additional crop growth.	The submission took a conservative approach in their claims of irrigated areas. If there are eligible works capable of floodplain harvesting between 1993-99 then they are eligible for a share component.
There is no evidence supplied that there were existing eligible floodplain harvesting works in 98/99 with the capability of capturing 358 ML.	Capability assessments are not required for unregulated properties.



Issue	Response	
General concern Nature Conservation Council has concerns that DPE is proposing to grant 13,173.565 ML of new floodplain harvesting entitlement across the above seven unregulated properties in the Namoi valley with insufficient evidence and no assessment of environmental impact.	I note these concerns, however, the floodplain harvesting entitlements for the seven properties have been calculated in line with the NSW Floodplain Harvesting Policy (2018). I also point out that environmental assessments are conducted in accordance with standard procedures and the NSW Floodplain Harvesting Policy. An explanatory fact sheet has been published on our website.	
Submitted by NSW Farmers Association nominee to the Healthy Floodplains Review Committee		
Macquarie modelling submissions		
No specific issues raised. Discussion around the department being too busy to provide information to the committee.	 This claim is inconsistent with the advice I have received that: Macquarie modelling submissions have been taken to the review committee on seven occasions and the department has provided additional information when requested. The department has arranged meetings for you with the modellers and concerning these submissions and modelling. The committee has been able to achieve consensus on 10 of the Macquarie submissions. 	



Issue	Response
No specific issues raised. Discussion around the department being too busy to provide information to the committee.	 This claim is inconsistent with the advice I have received that: Barwon-Darling modelling submissions have been taken to the review committee on at least seven occasions and the department has provided additional information when requested. The department has arranged meetings for you with the departmental modellers and concerning these submissions and modelling. The committee was able to achieve consensus on three of the Barwon-Darling submissions.

3. Namoi eligible works submissions

N080 (Issues 5 – 10)

The outstanding issues 5-10 are all pump rate of take and for these pumps the specifications [legible photos] do not support the claimed outperformance that is significantly above DPIE reference rates and for others the photos are illegible or not provided despite continuing Project staff requests.

Evidence supplied for pump capacity included:

- photographs of pumps and specification plates (where available)
- photographs of gearboxes and specifications of all but two pumps
- engineer's report, and
- statutory declaration regarding pump size and capacity

Information, as requested, has been supplied to substantiate claimed output by a pump engineer. The pumps in question were manufactured locally and no pump curves are available.

The supporting information supplied by the landholder is consistent with the multiple lines of evidence accepted by the committee for similar submissions in the earlier valleys.



Issue	Response
Issue 10 should not be endorsed as an eligible work to the private benefit to the Applicant as its "syndicate ownership" has not been resolved and the work is considered as "weak evidence" in HFP Analysis. I have been consistent in not endorsing issues represented with weak evidence.	I am advised that the department has determined that FPH14 is clearly within the boundary of . Our analysis indicates it can intercept floodwater and that the channel should be included as an eligible floodplain harvesting work in respect of floodplain harvesting capability modelling and the water supply work approval for . Although the initial evidence was weak, additional evidence was provided to show how FPH14 was integral to the capture and transfer of floodwater.

4. Macquarie audit of eligible works



M070

No specific response received. Indication in letter from NSWFA that evidence supplied to overturn ineligibility is weak.

Evidence supplied by the registrant, and further analysis by the department shows that the storage in question did not require a controlled work approval as the storage was not likely to affect the flow of water to or from the river and is not located on the Macquarie floodplain. Hence the storage did not conform with the definition of a controlled work under Part 8 of the *Water Act 1912* and does not meet the definition of a flood work in the *Water Management Act 2000*.

NB the storage is integral to the floodplain harvesting system for this property, as It is used to store water captured by other eligible floodplain harvesting works. It is considered to be an eligible work despite not being located on the designated floodplain. This conforms with the provisions of the NSW Floodplain Harvesting Policy (page 4) which states that "the policy applies to all areas of all properties, where all or part of the property lies within the designated floodplain. To remove any doubt, the policy applies to all areas of the property, irrespective of whether parts of the property are developed for irrigation or not".

The practice of determining such works as being eligible was ratified by the Healthy Floodplains Project Implementation Group at its meeting on 17 August 2020 (CM9 Ref INT20/242753). The group approved that:

All floodplain harvesting works be included as eligible that, other than for their location outside the designated floodplain, would be considered to be eligible in accordance with the provisions of the NSW Floodplain Harvesting Policy. This is subject to the proviso that the lands where the works are located must be part of a contiguous landholding that is represented in an eligible floodplain harvesting ROI.

The subject storage ticks all the boxes for approval as an eligible work.



Issue	Response
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5. Namoi unregulated entitlement submissions



Remote sensing cannot distinguish between dryland and irrigated crop areas

In considering and analysing these claims I was able to utilise DPI provided Floodplain Plans that record the actual existence of works during the qualifying period to verify a sample of the green hectares claimed in the submissions.

This sample analysis produced an output that >25% more hectares was being claimed than the maximum hectares available for irrigation by the subject works in situ on the FMP's.

The analysis also produced some evidence that aggregation of property's post the qualifying period was allowing green hectares on nearby property's to be aggregated with other property's that had completed flood take/irrigation works in the different relevant qualifying period for completed works for flood take.

I have previously determined that remote sensing is an appropriate way to independently validate historically irrigated and dryland cropping areas – see methodology report from DPE Water Analytics.

In 2021, 25 submissions were referred to me for determination because the committee was unable to reach consensus decisions. The method used to determine the cropping area was raised in 23 of these cases. Subsequently, I wrote to the Healthy Floodplains Review Committee to notify the members of my adoption of the recommendations of the department in all 25 matters. My letter also ratified the use of remote sensing to determine the cropping area:

"My resolution is that remote sensing will be used as the foundation for determining irrigated areas between 1993 and 1999. I trust that my resolution to utilise this methodology will also serve to set a precedent should matters such as these come back before the committee".

The NSW Floodplain Harvesting Policy requires us to 'repeat the volumetric conversion process applied to unregulated rivers. The remote sensing method is considered far superior to the landholder survey method used for the volumetric conversion of unregulated rivers i.e. the volumetric conversion process for unregulated rivers was based on user surveys that were not validated. A key consideration is ensuring that any data source that we use can be independently verified.

I consider that the information used to develop floodplain management plans is not fit for purpose for determining cropping areas and it was never contemplated that the data would be used in this way. Remote sensing is much more accurate for this purpose.

The property in question (N049) has been assessed as a whole and not on individual licences. If assessed using individual licences the result would be the same.



Issue	Response
The varying and deficient wording of the Statutory Declarations previously raised with you is not sufficient evidence in my view.	I have noted these concerns. I am advised that the inconsistency of the Statutory Declarations arose because not all landholders held these properties during 1993-99. They were requested at the direction of the chair of the Review Committee in an attempt to reach consensus among members. They form part of multiple lines of evidence and are not accepted as conclusive proof.



Issue	Response
The implications of the "sloppy" process outlined above are hard to quantify but importantly are likely to undermine public confidence in the administration of water, performance of the Project and compliance with the MDB Plan.	I disagree with the assertion that the farm-scale validation process has been "sloppy". I am satisfied that the following thorough and consistent methodology has been implemented in each valley: • each eligible landholder has been provided with an inventory of the floodplain harvesting works and modelling parameters used in respect of their registration of interest • each landholder has had the opportunity to participate in 1:1 discussions with departmental staff to discuss and possibly resolve their issues of concern regarding their works and
	 modelling data if issues were not able to be resolved during these meetings landholders could then make a submission to the Healthy Floodplains Review Committee multiple lines of evidence were used by the department's expert staff to analyse and assess submissions and provide appropriate advice to the committee the department engaged an independent expert to review the department's assessment of modelling submissions and to provide assurance to the committee that the best available information had been used and that a fair and consistent process had been implemented to assess the modelling submissions.
	the department has engaged an independent consultant to examine the farm-scale validation process from a probity perspective. The review was favourable and may be viewed here. The objectives of the farm-scale validation process are to ensure that the best available information is used in modelling and consequently the floodplain harvesting resource is shared equitably between landholders in accordance with the floodplain harvesting capability of each eligible farm.

INT22/22000 – Attachment A – Summary of nonconsensus submissions, including the landholder's requests, the department's comments and the decisions made by the committee.

ROI/Property/Basis of submission	DPE advice to the committee	Review committee endorsement of DPE advice
Claims that modelling has grossly underestimated overbank flow harvesting and overestimates rainfall runoff harvesting	Move the overbank flow access to the Bulgeraga Creek flood runner. Analysis Review of satellite imagery and hydraulic modelling results by departmental staff indicates that the property was placed on the wrong flood runner, leading to an underestimation of overbank flow harvesting. Hence the recommendation to adopt Bulgeraga Creek to correct the error.	Chair – endorsed NSWIC - endorsed NCC – not endorsed NSWFA – not endorsed
Claims that modelling underestimates developed area and that this error results in an underestimation of rainfall runoff and overbank flow harvesting.	Update developed area from 5,811ha to 8,965ha to correct an error. Analysis Review of satellite imagery by departmental staff validates the corrections to the developed area. However, there is insufficient evidence to warrant changes to rainfall runoff and overbank flow diversions.	Chair – endorsed NSWIC - endorsed NCC – not endorsed NSWFA – not endorsed
M018, M019 & M020 Claims the developed area in the model is underestimated leading to an underestimation in rainfall runoff harvesting. Claims that developed area is 5,934ha.	Update to developed area from 2,386ha to 3,200ha. Update undeveloped area from 1,786ha to 2,734ha. Analysis Review of satellite imagery by departmental staff indicates that the claimed developed area of 5,934ha cannot be reconciled with the observed	Chair – endorsed NSWIC - endorsed NCC – not endorsed NSWFA – not endorsed

ROI/Property/Basis of submission	DPE advice to the committee	Review committee endorsement of DPE advice
	satellite data, but that an increase in developed area to 3,200ha is reasonable and should be adopted. The area of 5,934ha nominated by the landholder includes developed and undeveloped land. Therefore, the undeveloped area that contributes to rainfall runoff should be increased to 2,734ha.	
Claims modelled overbank flow diversions are grossly underestimated due to not frequent enough access to overbank flow.	Update the threshold for overbank flow access from 4,351ML/day to 3,500ML/day. Analysis Advice to the committee is based on written advice from WaterNSW operators in relation to the management of Marebone Break regulating structure as well as departmental review of satellite imagery and hydraulic modelling.	Chair – endorsed NSWIC - endorsed NCC – not endorsed NSWFA – not endorsed
Claims modelling underestimates overbank flow harvesting due to the absence of some large pipes in the hydraulic modelling.	Change in flow threshold for overbank flow access from 52,000ML/d to 34,000ML/day in the Macquarie River at the Marebone breakout point. Analysis Advice to the committee is based on a review of the hydraulic modelling and available pipe data by departmental staff. Note that the described pipes had been mistakenly omitted from the original modelling.	NSWIC - endorsed NCC - not endorsed NSWFA - not endorsed

ROI/Property/Basis of submission	DPE advice to the committee	Review committee endorsement of DPE advice
Claims modelled overbank flow diversions are grossly underestimated due to less frequent access to overbank flow	Update the threshold for overbank flow access. Analysis Advice to the committee is based on written advice from WaterNSW operators in relation to the management of the Marebone Break regulating structure as well as departmental analysis of satellite imagery and hydraulic modelling.	Chair – endorsed NSWIC - endorsed NCC – not endorsed NSWFA – not endorsed
Claims modelling grossly underestimates floodplain harvesting take due to not frequent enough access to overland flow.	Move the overbank flow access to the Bulgeraga Creek flood runner. Analysis A review of the hydraulic modelling and satellite imagery by departmental staff has indicated that the property was located on the wrong flood runner and should be moved to Bulgeraga Creek to correct the error.	Chair – endorsed NSWIC - endorsed NCC – not endorsed NSWFA – not endorsed
Claims modelling grossly underestimates overbank flow harvesting and overestimates rainfall runoff harvesting.	Move the overbank flow access to the Bulgeraga Creek flood runner. Analysis A review of the hydraulic modelling and satellite imagery by departmental staff has indicated that the property was located on the wrong flood runner and should be moved to Bulgeraga Creek to correct the error.	Chair – endorsed NSWIC - endorsed NCC – not endorsed NSWFA – not endorsed

ROI/Property/Basis of submission	DPE advice to the committee	Review committee endorsement of DPE advice
Claims overbank flow take is underestimated due to a lack of access.	Move the overbank flow access from an unnamed flood runner on the eastern side of the property to an unnamed flood runner on the western side.	Chair – endorsed NSWIC - endorsed NCC – not endorsed
	Analysis A review of the hydraulic modelling and satellite imagery by departmental staff has indicated that the property was located on the wrong flood runner and it should be moved to the unnamed flood runner on the western side of In addition, an error was found in the model that was incorrectly limiting the pump rates in floodplain harvesting events. This issue was addressed and also results in more frequent access that is closer to that claimed in the submission.	NSWFA – not endorsed
Claims modelled floodplain harvesting diversions are underestimated	Add in rainfall runoff from a localized catchment area outside the property boundary of 74km2. Analysis A review of LiDAR data by departmental staff found that there is considerable local catchment area (74km²) that drains directly onto this property and can be taken by eligible floodplain harvesting works.	Chair – endorsed NSWIC - endorsed NCC – not endorsed NSWFA – not endorsed
M070	Update developed area from 1,715ha to 2,772ha.	Chair – endorsed

ROI/Property/Basis of submission	DPE advice to the committee	Review committee endorsement of DPE advice
Claims both developed and undeveloped	Update undeveloped area from 1,786ha to 20,000ha	NSWIC - endorsed
areas have been underestimated, and that rainfall runoff and floodplain harvesting take	Analysis	NCC – not endorsed
have been underestimated.	Review of satellite imagery by departmental staff validates the corrections to the developed and	NSWFA – not endorsed
	undeveloped areas. This substantially increased the modelled rainfall runoff harvesting in line with that claimed in the submission.	
M077	Update developed area from 800ha to 860ha	Chair – endorsed
Submission provides additional details about developed area and rainfall runoff	Analysis Review of satellite imagery by departmental staff	NSWIC - endorsed NCC - not endorsed
characteristics.	validates the corrections to the developed area.	NSWFA – not endorsed
M082	Move property to a different unnamed flood runner	Chair – endorsed
Claims modelled floodplain harvesting	Analysis	NSWIC - endorsed
diversions are underestimated due to insufficient floodplain harvesting access.	A review of satellite imagery by departmental staff	NCC – not endorsed
insumcient noouplain harvesting access.	found that the level of access in the model is comparable to that of the observed access for	NSWFA – not endorsed
	several observed events. Since the property has access to two flood runners, the property has been moved in the model to the flood runner with slightly	
	more frequent access. The department considers that the change of flood runner more accurately	

ROI/Property/Basis of submission	DPE advice to the committee	Review committee endorsement of DPE advice
	reflects the floodplain harvesting practices of the landholder.	
M085	Add inflow upstream of the property.	Chair – endorsed
Claims modelled floodplain harvesting	Analysis	NSWIC - endorsed
diversions are underestimated due to not including 74km ² of catchment area to the South.	A review of LiDAR data by departmental staff found that there is considerable local catchment area (74km²) that drains directly onto this property and can be taken by eligible floodplain harvesting works.	NCC – not endorsed NSWFA– not endorsed
M095	Change flow threshold for overbank flow access	Chair – endorsed
Claims modelling underestimates overbank	from 52,000ML/d to 34,000ML/d in the Macquarie River at the Marebone breakout point.	NSWIC - endorsed
flow harvesting due to the absence of some large pipes in the hydraulic modelling.	·	NCC – not endorsed
Tange pripas in the try arasine measuring.	Analysis	NSWFA – not endorsed
	A review of the hydraulic modelling and the available	
	pipe data by the department found that the described pipes had not been adequately	
	represented in the modelling. Hence the flow	
	threshold in the model has been updated from 52,000ML/d to 34,000ML/d, based on updated	
	hydraulic modelling results.	
M098	Update developed area from 197ha to 330ha	Chair – endorsed
	Analysis	NSWIC - endorsed

ROI/Property/Basis of submission	DPE advice to the committee	Review committee endorsement of DPE advice
Submission requests developed area be updated.	Review of satellite imagery by departmental staff validates the corrections to the developed area.	NCC – not endorsed NSWFA – not endorsed
Claims modelling underestimates rainfall runoff plus overbank flow harvesting due to an underestimated developed and undeveloped area.	Update developed area from 238ha to 298ha. Update undeveloped area to 578ha. Analysis Review of satellite imagery by departmental staff validates the corrections to the developed and undeveloped areas.	Chair – endorsed NSWIC - endorsed NCC – not endorsed NSWFA – not endorsed

ROI/Property/Basis of submission	DPE advice to the committee	Review committee endorsement of DPE advice
a. Claims that flow from Mungaroo and Sparks Warrambools (high level effluent channels from the Moonie and Barwon Rivers that also have some catchment of their own) reach the back of and provide floodplain harvesting access.	Amend rainfall runoff contribution from Mungaroo and Sparks Warrambools Analysis Flows from the Sparkes and Mungeroo Warrambools were investigated by the department after discussion with the landholder regarding: • breakouts from the Moonie River, and • rainfall runoff from a large catchment area associated with these Warrambools. Further modelling by departmental staff has been undertaken to estimate the rainfall runoff contribution from the Mungeroo and Sparks Warrambool catchments. The catchment areas of the Mungeroo and Sparks Warrambools are characterised by many paleo channels and braided systems that fill during runoff events. Whilst the modelled 1.1% regional runoff is lower than the yield for undeveloped areas, it is considered realistic.	NSWIC - endorsed NCC - not endorsed NSWFA - not endorsed

RC	DI/Property/Basis of submission	DPE advice to the committee	Review committee endorsement of DPE advice
b.	Claims that inflow from the Big Warrambool and Narran River back up into the Barwon-Darling and provide floodplain harvesting access.	Recommends that the floodplain harvesting threshold for the Homestead lagoon be revised from a flow of 26,000 ML/d in the Barwon-Darling River at Walgett to 16,600ML/d.	Chair – endorsed NSWIC - endorsed NCC – not endorsed
		Analysis Departmental modelling previously used a threshold of 26,000ML/d at Walgett for inundation of both Homestead and Frontage Lagoons. After investigation of landholder claims by the department it was found that Homestead Lagoon filled at a lower threshold of 16,000ML/d. This figure is verified by Landsat imagine on the 7/02/2001 which shows breakout water entering the Homestead Lagoon. When river flow at Walgett exceeds 26,000ML/d, flood water can enter the Frontage Lagoon from Homestead Lagoon via pipe 10.	NSWFA – not endorsed
c.	Requesting inclusion of surge areas D and E in modelling.	Surge area D and E be adopted and modelled as temporary surge with a combined volume of 550ML Analysis Satellite imagery analysis by departmental staff using Landsat 7 of the event on 6/2/2012, sees surge E filled with flood water. Surge area D did not have water in it during this event, however, after analysis of the flood channels surrounding Surge area D, we	Chair – endorsed NSWIC - endorsed NCC – not endorsed NSWFA – not endorsed

ROI/Property/Basis of submission	DPE advice to the committee	Review committee endorsement of DPE advice
	are satisfied that flood water could enter via the lagoon or the area to the north of the Surge Area.	
BD020	Amend rainfall runoff to 5.7% from local catchment Analysis	Chair – endorsed NSWIC - endorsed
Contesting rainfall runoff figures	The farm's local catchment is smaller and steeper than the comparison catchments, and thus reduces the opportunity for losses to occur. This suggests that, whilst the modelled 5.7% regional runoff is higher than the yield for undeveloped areas, the department considers that this is realistic compared to similar modelling of other gauged catchments in the area.	NCC – not endorsed NSWFA – not endorsed
Contesting the floodplain harvesting threshold of 13,000ML/d from the Mehi River take point used in modelling	Change of floodplain harvesting threshold from 13,000ML/d to 6,320ML/d. Analysis Using LIDAR for Mehi overflows shows there are a variety of channels, which were verified by photographs provided in the submission by the landholder. A departmental analysis of the level of the channels with flow rates and heights at the nearby flow gauging station indicates that flows	Chair – endorsed NSWIC - endorsed NCC – not endorsed NSWFA – not endorsed

ROI/Property/Basis of submission	DPE advice to the committee	Review committee endorsement of DPE advice
	would commence in the channels when the revised flow threshold is reached.	
Contesting threshold volumes in the Barwon-Darling River at Brewarrina.	Changes to threshold rates from 30,000ML/d to 12,500ML/d at Brewarrina. Analysis Landsat 5 satellite imagery taken on 04/02/2004 as analysed by departmental staff shows overbank water entering Cowells and also water downstream of the storage lift pumps further down the Cowell back to the river. On this day, Brewarrina was 13,179ML. On the previous day, Brewarrina was 12,634ML (no image available) but overbank water has entered Cowells by 04/02/2004. On the basis of this satellite and aerial imagery analysis by the department, it is recommended that the landholder claim of 12,500ML/d as the floodplain harvesting threshold be adopted.	Chair – endorsed NSWIC - endorsed NCC – not endorsed NSWFA – not endorsed

ROI/ Property/Basis of Submission	DPE advice to committee	Review committee endorsement of DPE advice	
N080	Statutory Declaration as requested supplied.	Chair – endorsed	
Issue 5: Requests increase in pump capacity for FPH 20 from 80 ML/day to 130 ML/day.	Pump curves for axial pumps of this size supplied. Images of pump motors supplied along with claimed horsepower (250 hp) Information as requested has been supplied to substantiate claimed output which is at the high end expected for such pump configurations. Increase in pump capacity is supported by the department.	NSWIC - endorsed NCC - not endorsed NSWFA - not endorsed Note that this issue was endorsed by the NCC on March 23 rd , 2021 but the endorsement was retracted during an out-of-session meeting 27 th October 2021.	
Issue 6: Requests amendment of pump FPH 21 from 500mm axial flow pump with a capacity of 80 ML/day to a 660mm axial flow pump with a capacity of 150 ML/day.	Pump curves for axial pumps supplied but not specifically of this size. However, documentation provided by pump supplier. Images of pump motors supplied along with claimed horsepower (450 hp) Information as requested has been supplied to substantiate claimed output which is at the high end expected for such pump configurations.	Chair – endorsed NSWIC - endorsed NCC – not endorsed NSWFA – not endorsed Note that this issue was endorsed by the NCC on March 23 rd , 2021 but the endorsement was retracted during an out-of-session meeting 27 th October 2021.	

ROI/ Property/Basis of Submission	DPE advice to committee	Review committee endorsement of DPE advice	
	Based on increase in pump size and engine capacity the proposed pump capacity is supported by the department.	Note that change of pump size was endorsed by all members. Pump capacity is the subject of nonconsensus.	
Issue 7: Requests increase in pump FPH 22 (EP 4) size and capacity from 610mm axial flow at 80 ML/day to 660mm axial flow at 150 ML/day.	Pump curves for axial pumps supplied but not specifically of this size. However, documentation provided by pump supplier. Images of pump motors supplied along with claimed horsepower (450 hp) Information as requested has been supplied to substantiate claimed output which is at the high end expected for such pump configurations. Based on increase in pump size and engine capacity the proposed capacity is supported by the department.	NSWIC - endorsed NCC - not endorsed NSWFA - not endorsed Note that this issue was endorsed by the NCC on March 23 rd , 2021 but the endorsement was retracted during an out-of-session meeting 27 th October 2021. Note that change of pump size was endorsed by all members. Pump capacity is the subject of nonconsensus.	
Issue 8: Requests increase in FPH 23 (EP 5) pump size from 510mm at 80 ML/day to 610mm at 130 ML/d.	Statutory Declaration as requested supplied Pump curves for axial flow pumps of this size supplied. Images of pump motors supplied along with claimed horsepower	Chair – endorsed NSWIC - endorsed NCC – not endorsed NSWFA – not endorsed	

ROI/ Property/Basis of Submission	DPE advice to committee	Review committee endorsement of DPE advice
	Information as requested has been supplied to substantiate claimed output which is at the high end expected for such pump configurations. Based on evidence provided the increase in pump capacity is supported by the department.	Note that this issue was endorsed by the NCC on March 23 rd , 2021 but the endorsement was retracted during an out-of-session meeting 27 th October 2021. Note that change of pump size was endorsed by all members. Pump capacity is the subject of nonconsensus.
Issue 9: Requests addition of pump FPH24 to eligible works as 610mm axial flow with a flow rate of 130 ML/d.	Statutory Declaration as requested supplied Pump curves for axial pumps of this size supplied. Images of pump motors supplied along with claimed horsepower Information as requested has been supplied to substantiate claimed output which is at the high end expected for such pump configurations. Based on the evidence provided the increase in pump capacity is supported by the department.	Chair – endorsed NSWIC - endorsed NCC – not endorsed NSWFA – not endorsed Note that this issue was endorsed by the NCC on March 23 rd , 2021 but the endorsement was retracted during an out-of-session meeting 27 th October 2021. Note that the addition of the pump was endorsed by all members. Pump capacity is the subject of non-consensus.
Issue 10: Requests addition of pump FPH45 to eligible works and	Statutory Declaration as requested supplied	Chair – endorsed

ROI/ Property/Basis of Submission	DPE advice to committee	Review committee endorsement of DPE advice
increase in pump size from 20"	Pump curves for axial pumps of this size supplied.	NSWIC - endorsed
(510mm) axial flow to 610mm axial flow with a flow rate of 130 ML/day.	Images of pump motors supplied along with claimed horsepower	NCC – not endorsed NSWFA – not endorsed
	Information as requested has been supplied to substantiate claimed output which is at the high end expected for such pump configurations. Based on the evidence provided the increase in pump capacity is supported by the department.	Note that this issue was endorsed by the NCC on March 23 rd , 2021 but the endorsement was retracted during an out-of-session meeting 27 th October 2021.
		Note that the addition of the pump was endorsed by all members. Pump capacity is the subject of non-consensus.
N123	Registrant's claim is based on the volume noted in the Part	Chair – endorsed
Issue 1: Contesting storage volume	8 plan of works drafted in March 2010, which notes the increase in existing 100 ML storage to 600 ML was part of	NSWIC - endorsed
of OFS1. Requesting increase from 100ML to 600ML.	the application lodged prior to 2008 (1991).	NCC - not endorsed
	This fits within the FPH policy as being an eligible work.	NSWFA – endorsed
	Department supports the increase in the eligible storage	
	capacity from 100 M to 600 ML based on eligible	
	application nominating a specific volume.	
N144	FPH 14 is the tail water return (TWR) drain or channel	Chair – endorsed
	which also acts as a supply for properties further west as part of a syndicate supply system. Both Fields K12 and K13	NSWIC - endorsed

ROI/ Property/Basis of	DPE advice to committee	Review committee endorsement
Submission		of DPE advice
Issue 10: Requests inclusion of	use this channel to convey their TWR back to the main	NCC – endorsed
channels FPH14 to eligible works.	water storage, OFS 1.	NSWFA – not endorsed
	It is also the main conduit for FPH water from northern	
	section of property / floodway back to OFS 1. Documents	
	supplied indicate how and where other works (pipes)	
	interconnect with the channel.	
	It is currently mapped from FPH 8 to 130m south of FPH 4.	
	This and Channel 13 require to be extended so that they	
	connect.	
	The department supports the inclusion of channel FPH 14	
	as an eligible floodplain harvesting work.	

4. Audit of Eligible Works Submissions

ROI/ Property/Basis of Submission	DPE advice to committee	Review committee endorsement
		of DPE advice
M070/		Chair – endorsed (via email)
Requests that the storage be deemed	The subject storage was initially deemed to be	NSWIC – endorsed (via email)
eligible under clause 23B(2)(b) of the Water Management (General)	ineligible because the department considered that it could have affected the passage of water flowing	NCC – Not endorsed (via email)
Regulation 2018 (approval not required to construct the work). (Note that clause 23B has been disallowed by the NSW Legislative Council. However, the department persists in using the eligibility rules prescribed in this clause as they are the latest indication of NSW Government policy in regard to floodplain harvesting)	across the floodplain. Hence it would have required approval as a controlled work under Part 8 of the <i>Water Act 1912</i> even though it was located outside the boundary of the Macquarie designated floodplain. The submission prompted further analysis of satellite imagery and LiDAR, which confirmed the landholder's claim that the work does not impact the flow of water to or from a river and hence does not require a controlled work approval.	NSWFA – not endorsed
	Therefore it conforms with the eligibility criteria.	

ROI/ Property/Basis of Submission N048 Requesting that draft entitlement be recalculated as a groundwater only property as the unregulated licence was not acquired until after the 1993-99 volumetric conversion period.	Investigation confirms that the property should be considered groundwater only for the purposes of determining the floodplain harvesting entitlement as there was no unregulated water licence attached to this property during the volumetric conversion period. Based on the policy directive for establishing share components in unregulated river sources, is eligible for a FPH entitlement of 3284.25ML	Review committee endorsement of DPE advice Chair – endorsed NSWIC - endorsed NCC – not endorsed NSWFF – not endorsed	Submission remote sensing of highest irrigated crop year (Figure in bold used for calculation) Not applicable. DPE remote sensing used	DPE remote sensing of highest irrigated crop year (checked against submission) (Figure in bold used for calculation) 532.3ha (1998/99)
N049 Contesting irrigated crop	Remote sensing analysis indicates that the irrigated crop area should	Chair – endorsed NSWIC - endorsed	1583ha (1998/99)	1602ha (1998/99)
area used for entitlement	be increased to 1583ha.	NCC – not endorsed		
calculation	Based on the policy directive for establishing share components in	NSWFF – not endorsed		

ROI/ Property/Basis of Submission	is eligible for a FPH entitlement of 2860.69ML.	Review committee endorsement of DPE advice	Submission remote sensing of highest irrigated crop year (Figure in bold used for calculation)	DPE remote sensing of highest irrigated crop year (checked against submission) (Figure in bold used for calculation)
Requesting the recalculation of their FPH unregulated draft entitlement based on 267ha irrigated crop area in 1996/97	Remote sensing analysis indicates that the irrigated crop area should be increased to 267ha. Based on the policy directive for establishing share components in unregulated river sources, is eligible for a FPH entitlement of 274.5ML .	Chair – endorsed NSWIC - endorsed NCC – not endorsed NSWFF – not endorsed	267ha (1996/97)	272.57ha (1996/97)
Requesting the recalculation of their FPH unregulated draft entitlement based on 370ha irrigated crop area in 1998/99	Remote sensing analysis indicates that the irrigated crop area should be increased to 370ha. Based on the policy directive for establishing share components in unregulated river sources, is eligible for a FPH entitlement of 1894ML .	Chair – endorsed NSWIC - endorsed NCC – not endorsed NSWFF – not endorsed	370ha (1998/99)	379.29ha (1998/99)

ROI/ Property/Basis of Submission	DPE advice to committee	Review committee endorsement of DPE advice	Submission remote sensing of highest irrigated crop year (Figure in bold used for calculation)	DPE remote sensing of highest irrigated crop year (checked against submission) (Figure in bold used for calculation)
Requesting the recalculation of their FPH unregulated draft entitlement as a groundwater only property. Unregulated licence was purchased in 2002 after volumetric conversion	Investigation confirms that the property should be considered groundwater only for the purposes of determining the floodplain harvesting entitlement as there was no unregulated water licence attached to this property during the volumetric conversion period. Based on the policy directive for establishing share components in unregulated river sources, is eligible for a FPH entitlement of 2493.875ML	Chair – endorsed NSWIC - endorsed NCC – not endorsed NSWFF – not endorsed	Not applicable, DPE remote sensing used	590.25ha (1995/96)
Contesting unregulated entitlement. Requesting review using 443ha irrigated crop area grown in 1998/99	Remote sensing analysis indicates that the irrigated crop area should be increased to 416.8ha. Based on the policy directive for establishing share components in unregulated river sources,	Chair – endorsed NSWIC - endorsed NCC – not endorsed NSWFF – not endorsed	443ha (1998/99)	416.8ha (1998/99)

ROI/ Property/Basis of Submission	DPE advice to committee is eligible for a FPH entitlement	Review committee endorsement of DPE advice	Submission remote sensing of highest irrigated crop year (Figure in bold used for calculation)	DPE remote sensing of highest irrigated crop year (checked against submission) (Figure in bold used for calculation)
N272 Contesting unregulated entitlement. Claiming 136ha in 1998/99 (Authorised Area was 10ha)	of 2008.25ML Remote sensing analysis indicates that the irrigated crop area should be increased to 136ha. Based on the policy directive for establishing share components in unregulated river sources, is eligible for a FPH entitlement of 358ML	Chair – endorsed NSWIC - endorsed NCC – not endorsed NSWFF – not endorsed	136ha (1998/99)	151.05ha (1998/99)