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DEPARTMENT OF WATER RESOURCES

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# BEFORE THE DEPARTMENT OF WATER RESOURCES OF THE STATE OF IDAHO

IN THE MATTER OF THE PETITION	)	Docket No. CM-DC-2011-004
DELIVERY CALL OF RANGEN,	)	
INC.'S WATER RIGHT NOS. 36-02551	)	FREMONT MADISON IRRIGATION
& 36-7694	)	DISTRICT'S PROPOSED FINDINGS OF
	)	FACT AND POST-HEARING BRIEF
	)	
	)	

Comes now Fremont-Madison Irrigation District ("FMID"), by and through its counsel, Jerry R. Rigby, of Rigby, Andrus & Rigby, Chartered, and hereby submits its Proposed Findings of Fact and Post-Hearing Brief.

## INTRODUCTION AND SCOPE OF FMID'S POSITION

As was made clear at the hearing, FMID's active involvement in the Rangen Call has been mainly limited to the position that the hydrologic effect or impact on Rangen's water rights from pumping occurring in the FMID area cannot be determined with ANY degree of certainty, notwithstanding ESPAM 2.1 produces de minimis amounts of modeled impacts. Therefore, it is FMID's position that the past administered ten percent (10%) trimline (or by whatever name the

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Director finally decides it shall be called) is appropriate and necessary in administering any call in the ESPA.

#### PROPOSED FINDINGS OF FACT

Initially, FMID concurs with IGWA's arguments and its proposed findings which would limit Rangen's Call to be based only upon water rights from the Curren Tunnel; the proposed findings that Rangen has an adequate water supply for its beneficial uses especially if it is required, as it should, to first improve or modify its conveyance system and operations before receiving any benefit from a Call; and the proposed findings that to grant Rangen's Call based upon Rangen's present means of appropriation would unreasonably impede the full development of the ESPA in contradiction to the constitutional right to appropriate the unappropriated water, which right is incorporated into the conjunctive management rules.

In addition thereto, FMID proposes the following Findings of Fact:

- 1. It cannot be determined with any degree of certainty that FMID has a hydrologic effect upon Rangen's water rights.
- 2. The fact that the model produces a mathematical representation of impact is an unavoidable consequence of the design and construction of the model because it has been programed to determine an impact regardless of any actual hydrologic effect or impact.
- 3. Due to the distance between FMID and Rangen's water rights, together with the intervening aquifers and natural barriers, the modeled impacts of FMID's pumping on the Rangen's water rights are inaccurate due to the increased uncertainty caused by such outside impacts.

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- 4. Between FMID and Rangen are zones of low permeability known informally as the "Mud Lake Barrier" and "The Great Rift." These would be expected to further impede the propagation of hydraulic effects from FMID to the south & west.
- 5. ESPAM 2.0 (or 2.1) estimates that if curtailment were to occur in the Egin Bench region of FMID (which contains the FMID exchange wells), after 150 years the *cumulative* benefit to the Rangen model cell would be approximately 0.04% of the total curtailed volume. Furthermore, the 0.04% estimate is for the *entire cell* and not just Rangen's individual diversion.
- 6. The doctrine of Futile Call is appropriately applicable in any call by Rangen against FMID's wells.
- 7. The parameterization of the aquifer model was dependent upon a water budget whose overall uncertainty is on the order of +/- 17%, greatly adding to the uncertainty of the impacts to Rangen's water rights by pumping being done in the FMID area.
- 8. The model is incapable of representing hydrologic heterogeneity at scales smaller than the distance between pilot points.
- The model's measured impacts are regional in nature and it does NOT work well on a single model cell.
- 10. To curtail FMID's pumping would be to unreasonably impede the full development of the ESPA in contradiction to FMID's constitutional right to appropriate the unappropriated water which right is incorporated into the conjunctive management rules
- 11. The modeled impacts to Rangen's rights caused by the pumping of FMID's wells has been proven by clear and convincing evidence to be sufficiently imprecise and non-material so as

to not warrant any order of curtailment against these wells and similarly situated water rights.

12. The only fair and appropriate way to correct the imprecise modeled impacts to the FMID and other similarly modeled de minimis impacts is to continue the administrative practice of at least a ten percent (10%) trimeline (or whatever name the Director now chooses to call the same administrative practice).

### Argument

Should Curtailment be Found Appropriate In the Rangen Call, A 10 Percent (10%)

Trimline should be imposed.

FMID has read and hereby concurs with IGWA's factual and legal arguments set forth in its section on the Trimline in it's Post Hearing Brief and therefore fully incorporates the same arguments into this Post Hearing Brief.

In addition thereto, FMID would make the following arguments:

FMID's expert in modeling, Bryce Contor, a participant in the creation and calibration of the ESPAM model(s) and the author of the water budget used in the model(s) gave several opinions regarding the lack of precision and limitations of the model, especially when the distance is great and there are intervening natural barriers as is the case with FMID's location in relationship to Rangen. Most of Mr. Contor's expert opinions are incorporated into the above proposed findings of fact by FMID.

Mr. Contor's testimony also supported several additional facts and points which increase the uncertainty of the model as it is applied to the original trimline areas of earlier designations.

When asked, all witnesses concede that the model has been programmed to show an pre-assumed

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impact of ANY well to Rangen's water rights regardless of where the well is located. In fact, the model would actually show an impact to Rangen's water rights of a well located in Island Park even though everyone knows that such a well could not possibly impact Rangen's water right. The point is that the model has certain "rules" built into it, one of those being that regardless of any measured hydrological impacts a well actually has upon a spring, the model MUST find impact. Although arguably this rule might be correctly assumed when the proximity of a well is close to a spring, surely the extension of such a rule to a well located a great distance away and through many natural barriers, should be suspect at best.

Mr. Contor further described how the "built in rules" works. The ESPAM2.1 representation of MODFLOW is designed so that all active model cells are configured to convey water and hydraulic signals. That is because all active model cells have a transmissivity value that is greater than zero. This means that unavoidably, any point within the active model domain will be shown to have some mathematical effect on any other point within the model domain. The model domain was a decision made by the modelers and the ESHMC (modeling committee) at the beginning of model construction. The fact that there is a mathematical relationship shown between FMID and the Rangen Cell is a result of this modeling decision, not because it has been measured.

Although priority of water rights is appropriately alive and well and should be supported, one only needs to review the long standing court rulings of Idaho to recognize that a priority right does NOT grant a senior rightholder the right to curtail another's use of their valid junior water rights if the added benefits to the priority right are so minimal, de minimis or uncertain that it

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amounts to waste and otherwise stops the full economic development of the water resource (I.C. §42–226). On point is the language quoted by IGWA in it's Post Hearing brief, from the Idaho Supreme Court case of *Van Camp v. Emery*, 13 Idaho 202 (1907), where the court recognized that even though the senior might derive some benefit from curtailing the juniors from use of the source, it cannot do so to the total detriment of the juniors. This principle has been upheld in the United States Supreme Court case of *Schodde vs. Twin Falls Land and Water Company*, 224 U.S. 107, 32 S.Ct. 470, 56 L.Ed. 686 (as also addressed in IGWA's Post Hearing brief). Furthermore, in the case of *Van Camp*, the Senior priority was actually receiving some proven benefit to its pasture through sub irrigation, yet was denied the right to curtail the juniors. In the present case, the uncertainty of ANY benefit to Rangen from the curtailment of FMID's wells is so imprecise and questionable, that the *Van Camp* ruling clearly holds that it would be wrong to curtail FMID's pumping.

Mr. Condor further addressed the great distance between FMID and Rangen. There are a large number of physical, geological and hydrogeological features that are represented in the intervening space. The representation of each of these is subject to uncertainty, and the uncertainty is compounded by the large number of features and the large distance. All told, it makes it far too questionable that the model could accurately predict any impact from the FMID wells to the Rangen springs. Dr. Brendecke confirmed that due to the distance involved as well as the natural barriers, to name a few, it would cause any impact calculations from FMID's well pumping to be "lost in the noise".

Furthermore, both the timing and magnitude of effects from FMID's wells are reduced by

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zones of low aquifer transmissivity. Both the "Mud Lake Barrier" and the "Great Rift" were testified to by many to be zones of low transmissivity. This has apparently been deduced by observation of water levels in wells across the plain, and by the experts understanding of the geology of both regions.

Mr. Contor testified that the modeling used for the Rangen Call was performed in ESPAM2.0, and that work by IDWR suggests that for the Rangen Call, ESPAM2.1 results should be very similar to ESPAM2.0 results. However, because the modeling was performed in superposition mode, one of the implications of using it is that results are additive and scalable. This apparently means that the 0.04% value as was testified to by Mr. Contor and described in on page 6 to Exhibit 4001, is applicable regardless of the magnitude of curtailment or its temporal duration. If one adds the uncertainty described previously to the 0.04% number, while the model construction made it impossible for the representation to be zero, the fact that the number is extremely small indicates that the data supports the understanding that if there is an effect it is so de minimis that an impact can't be determined with any degree of certainty.

Both Dr. Brendecke and Mr. Contor testified that the model is a regional model and not a single model cell model which is also important in that added to the imprecision of the model is the fact that the modeled impacts for a single cell are admittedly not as precise as the modeled impacts to a region.

Much was argued by Rangen's experts as to how important the uncertainty of +/- 17% water budget was to the model. However, the fact of the matter is that there was and continues to be an uncertainty in the water budget of +/- 17%, which has gone into the model(s) and it clearly

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has an impact on the uncertainty of the model to some significant degree.

With the support of previous Idaho and Supreme court cases, as cited in the IGWA Post Hearing brief, previous Directors have correctly implemented and adhered to a trimeline which has correctly protected FMID and similarly situated wells from curtailment when the model shows 10% or less of the impacts would ever reach a Call area. As cited by IGWA, Director Dreher used the following language to describe when he would not curtail a junior: "if we didn't know whether curtailment would result in a meaningful amount of water reaching the calling senior right." (Emphasis added). He also used such appropriate rationale as "only when you know it will result" instead of "it might result" when deciding whether to curtail. See IGWA Post Hearing Brief, Paragraph 5. FMID would argue that the present Director should come to the same conclusions as the past Directors. Even though the modeling has been improved, it still has not and cannot, with any degree of certainty, measure the actual impacts, if any, which are caused by the pumping of FMID's wells to the Rangen springs.

#### **Futile Call**

FMID has read and hereby concurs with IGWA's factual and legal arguments set forth in its section on the Futile Call in it's Post Hearing Brief and therefore fully incorporates the same arguments into this Post Hearing Brief.

## **CONCLUSION**

In addition to the sound reasoning by IGWA in its Post Hearing Brief, Rangen's delivery call should be denied as against FMID and any wells so similarly situated and with similarly modeled impacts as they cannot be shown to actually impede or diminish the flows of Rangen with **any** degree of certainty. In order to appropriately distinguish such wells and justify the denial of a delivery call, the judicially supported solution is a trimeline of no less than ten percent (10%).

DATED this 21<sup>ST</sup> day of June, 2013.

Jerry K. Rigby

# CERTIFICATE OF SERVICE BY MAIL, HAND DELIVERY OR FACSIMILE TRANSMISSION

I hereby certify that a true and correct copy of the foregoing document was on this date served upon the persons named below, at the addresses set out below their name, either by mailing, hand delivery or by telecopying to them a true and correct copy of said document in a properly addressed envelope in the United States mail, postage prepaid; by hand delivery to them; or by facsimile transmission.

DATED this 21st day of June, 2013.

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