Fish and Wildlife Stewardship
#304, 4920 – 51 Street
Red Deer, Alberta T4N 6K8

April 14, 2021

Dunmore Solar Inc.
c/o Margaret McKenna
Horus Solar Alberta Ltd.
Maggie.mckenna@horuscapital.co.uk

Transmitted via email

Dear Ms. McKenna,

RE: Renewable Energy Referral Report for the Dunmore Solar Energy Project by Dunmore Solar Inc.

This letter is to advise that Alberta Environment and Parks - Fish and Wildlife Stewardship (AEP-FWS) Staff have completed the review of the project proposed by Dunmore Solar Inc., called the Dunmore Solar Energy Project. Attached is a copy of the AEP-FWS Renewable Energy Referral Report, which reviews the potential impacts of the project on wildlife and wildlife habitat for inclusion with your application to other regulatory agencies. This review is only for the project as it has been presented by the proponent and any changes to the project (footprint, layout, mitigation measures, etc.), requires further review and written acknowledgement from AEP-FWS to ensure wildlife and habitat are protected.

Sincerely,

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Alberta Environment and Parks – Fish and Wildlife Stewardship Renewable Energy Referral Report

A. ALBERTA ENVIRONMENT AND PARKS – FISH AND WILDLIFE STEWARDSHIP (AEP-FWS) REVIEW

The Dunmore Solar Energy Project (the Project) proposed by Dunmore Solar Inc. (the Proponent) was reviewed by the Alberta Environment and Parks – Fish and Wildlife Stewardship (AEP-FWS) regional wildlife contact for renewable energy projects. AEP-FWS has reviewed the proposed location, mitigation strategies, including associated infrastructure and construction plans, and post-construction monitoring and mitigation program, as presented by the Proponent in a submission dated November 25, 2020 and accepted by AEP-FWS on November 26, 2020.

Documents reviewed by AEP-FWS and collectively referred to as the *Project Submission* throughout this referral report, include:

- *Renewable Energy Project Submission Dunmore Solar Energy Project*; 73 pages; dated November 25, 2020
- *20210316 AEP Initial Review Questions_Dunmore Solar – WEST Responses*; Excel spreadsheet; dated March 26, 2021

Note: various clarifications and edits of the original documents are discussed in the subsequent files and these changes are to supersede the original documents.

The AEP-FWS review of the Dunmore Solar Energy Project was guided by the AEP-FWS policy document, *Wildlife Directive for Alberta Solar Projects* (October 2017; hereafter called the *Directive*) and the *Post-Construction Survey Protocols for Wind and Solar Energy Projects (*January 2020; hereafter called the *PCMP Protocol*). The proponent must follow the *Directive* and *PCMP Protocol* for requirements on siting, pre-construction surveys, construction, operation, and post-construction monitoring and mitigation plans.

This referral report summarizes the review undertaken by AEP-FWS that was restricted to reviewing information provided in the submitted documents, completed by Western EcoSystems Technology, ULC (WEST) and North Shore Environmental Consultants on behalf of the Proponent, and applying the wildlife standards and best management practices for the siting, construction and operation of the solar facility. This office undertook no independent on-site assessment. This referral report is not intended to relieve any party from any liability if there are detrimental effects to wildlife or wildlife habitat during construction or operation that were not identified and mitigated for in the documents submitted. It is the responsibility of the Proponent to ensure compliance under all other policy and legislation, including but not limited to the *Alberta Wetland Policy*, *Water Act, Code of Practice for Watercourse Crossings*, *Environmental Protection and Enhancement Act*, *Alberta Wildlife Act, Migratory Birds Convention Act,* and *Species at Risk Act*. Federal requirements may differ from AEP-FWS policy, therefore additional consultation may be necessary. AEP-FWS review does not eliminate the need for review by other branches of the Environment and Parks Department, Government of Canada or other governing bodies. This referral report summarizes the potential risks to wildlife and wildlife habitat based on the information provided to AEP-FWS.

Summary: This summary is a condensed version of the entire referral report. For details on specific topics, see the body of this report. The overall project risk ranking is provided in the last paragraph of this summary.

The Dunmore Solar Energy Project is sited entirely on cultivated land and avoids named lakes, permanent watercourses and valley breaks, which aligns with the *Directive*.

The Proponent is proposing to construct over six seasonal wetlands (Class III), which will be permanently lost, and Project infrastructure will impact the 100 m setbacks of four seasonal (Class III) and one semi-permanent (Class IV) wetland. This does not align with the *Directive*, and the risk to wetlands is high.

AEP-FWS has determined the risk of wildlife entrapment due to the Project fence is low, based on the proposed fence design. AEP-FWS has determined the risk of wildlife mortality is low based on avian use in the Project area.

The Project has been sited to avoid most wildlife features, including the house, nest, den and lek of species of management concern. However, one ferruginous hawk nest setback will be impacted by Project infrastructure. The mitigation commitments made by the Proponent align with the *Directive* are adequate to limit the disturbance to the active nest; therefore, the risk to wildlife features is considered low.

AEP-FWS has ranked the Dunmore Solar Energy Project proposed by Dunmore Solar Inc., a low risk to wildlife and wildlife habitat, based on Project siting, limited wildlife use in the area, and commitments made by the Proponent to mitigate and monitor wildlife impacts. This AEP-FWS Renewable Energy Referral Report expires on April 14, 2026.

AEP-FWS Renewable Referral Report Prepared by:

Signature:_____ Date:____April 14, 2021_____
Printed Name, Position, and Office: Jason Unruh, Wildlife Biologist, South Region, Red Deer, Alberta

AEP-FWS Renewable Referral Report Reviewed by:

Signature:_____ Date:____April 14, 2021_____
Printed Name and Position: Scott Stevens, Senior Wildlife Biologist, South Region, Red Deer, Alberta

B. PROJECT DETAILS

Project Name: Dunmore Solar Energy Project (also referred to as the Project)

Proponent Name: Dunmore Solar Inc. (also referred to as the Proponent)

Project Location: Refer to Table 1

Table 1. Proposed legal land locations of the Dunmore Solar Energy Project area

Quarter(s)	Section	Township	Range	Meridian
NE, SE	33	12	4	W4
NW, SW	34	12	4	W4
All	27	12	4	W4

Project Area (hectares):

Disturbance footprint for construction phase (temporary): 251.9 ha
Disturbance footprint for operation phase (permanent): 251.9 ha

Nameplate Capacity (total megawatts): 257.57 MW

Facility Type: Photovoltaic (PV) solar facility

C. WILDLIFE CONCERNS RELATED TO SOLAR ENERGY

Impacts to wildlife identified for all solar energy projects in Alberta, which forms the basis for project-specific review.

HABITAT LOSS, DEGRADATION AND FRAGMENTATION

Solar facilities may result in the direct loss of habitat for wildlife. Negative effects may include, but are not limited to, interruption of movement corridors, isolation of species and populations, shifts in composition and degradation of foraging/breeding/brood rearing habitat. There are particularly negative effects to wildlife, especially species at risk, by siting solar energy facilities in areas of native habitats. AEP-FWS requires siting the solar facility and associated infrastructure (access roads, substation, etc.) on cultivated or other previously disturbed lands that do not contain sensitive features such as wetlands, to significantly reduce potential negative effects on wildlife habitat.

WILDLIFE DISTURBANCE AND MORTALITY

AEP-FWS has identified concerns over the potential negative effects on wildlife caused by solar facilities and related infrastructure, including access roads, transformer/invertor stations, collection lines, and fencing. For example, solar projects may result in site avoidance and abandonment, decreased productivity, collision mortality, and trapping or stranding of wildlife.

Wildlife Movement and Fencing: Due to human safety concerns, solar photovoltaic sites are fenced to exclude people; this exclusion also impacts wildlife. Fencing can create hazards and barriers for wildlife, such as mammals, reptiles and birds. Fences can block or hinder daily wildlife movements, seasonal migrations and access to forage or watering sites. AEP-FWS requires that solar projects are fenced in a manner to prevent harm or mortality to wildlife and to facilitate reasonable wildlife movement through or around the solar project.

Direct Mortality: Bird mortalities have been documented at a number of solar facilities in North America. Bird mortality related to PV facilities is caused by impact trauma, predation and starvation. The mechanism of mortality for birds appears to vary between the family groups. Mortalities of waterbirds, such as grebes, loons and some ducks, have been detected at PV sites.

Water obligate birds, such as grebes and loons, which fail to die on impact, become stranded because they require water to take flight and subsequently succumb to starvation or predation.

AEP-FWS requires siting solar facilities away from areas that may have large concentrations of waterbirds, such as large wetlands, lakes, rivers, and 'Important Bird Areas'.

PROJECT-SPECIFIC CONCERNS

Desktop and field investigations are required to determine the potential of the Dunmore Solar Energy Project to affect wildlife and wildlife habitat. Per Standard 100.2.1 of the *Directive*, the Proponent must complete the following pre-assessment wildlife surveys:

- Spring and fall bird migration surveys
- Breeding bird surveys
- Raptor nest searches
- Determination of habitat types

In addition, surveys must be conducted for species of management concern that may occur in and around the Project area. The proposed Project is sited within the following Key Range or Wildlife layers, as described within the provincial Wildlife Sensitivity Data Sets:

- Sensitive amphibians
- Sensitive raptors (including ferruginous hawk, golden eagle, and prairie falcon)
- Sharp-tailed grouse
- Burrowing owl

Surveys for all of the above must be conducted following protocols outlined in the *Sensitive Species Inventory Guidelines,* as applicable. If a species of management concern is identified, AEP-FWS requires that areas immediately adjacent to key wildlife habitats be avoided by appropriate setbacks as outlined in the *Directive* and *Recommended Land Use Guidelines for Protection of Selected Wildlife Species and Habitat within Grassland and Parkland Natural Regions of Alberta*.

D. WILDLIFE MONITORING PROGRAM

Completion of pre-development surveys and submission of information to the Fisheries and Wildlife Management Information System (FWMIS).

Research Permit and Collection Licence Number(s): #19-256, #20-194, #20-201

Pre-assessment survey data completed within two years of submission to AEP-FWS:
Pre-assessment survey methods and results were provided in the *Project Submission*.

Wildlife surveys conducted include:

- Spring bird migration surveys: April 11, April 24, and May 2, 2019;
- Fall bird migration surveys: September 15, October 17, October 31, 2019;
- Breeding bird point count surveys: early survey May 28, and late survey June 17, 2020;
- Amphibian surveys: June 23, and July 21-22, 2020;
- Raptor nest searches: May 2, May 28, June 17-18, and June 23, 2020;
- Sharp-tailed grouse lek surveys: April 16-17 and May 8, April 17-18 and May 9, 2019;
- Burrowing owl surveys: call playback June 16, 2020;

The Proponent has committed to keeping wildlife surveys current by completing additional site-specific wildlife surveys (i.e., raptor nest searches, sharp-tailed grouse lek surveys, and burrowing owl surveys) every two years until the Project is commissioned as per Standard 100.2.4 of the *Directive*. All wildlife related surveys (pre- and post-construction) and analysis of data are required to be conducted by experienced wildlife biologists as defined by the *Directive*. Survey results are to be submitted to the AEP-FWS Fish and Wildlife Management Information System (FWMIS). The Proponent has committed to implementing additional mitigation measures if any new sensitivities or features are detected, in consultation with AEP-FWS.

If the Project has not been constructed within five years of this AEP-FWS Renewable Energy Referral Report being issued (expiry date: April 14, 2026), wildlife surveys will need to be updated and a new Renewable Energy Referral Report will be required, as per Standard 100.2.*5* of the *Directive*. Wildlife surveys that would be required may include, but may not be limited to, all those listed above.

E. SOLAR ENERGY FACILITY - AVOIDANCE AND MITIGATION OF WILDLIFE RISKS

Review of the proposed wildlife avoidance and mitigation strategies identified in the submission, in comparison with the Directive.

HABITAT LOSS, DEGRADATION AND FRAGMENTATION

Native Habitat

The Project area is located in the Dry Mixedgrass Natural Sub-region of the Grassland Natural Region. Project infrastructure, including but not limited to solar arrays (mounted on fixed tilt racking supported by driven or helical piles), transformers, collection lines, access roads, a perimeter fence, and staging area, etc., has been sited to avoid native habitat because the Project is sited entirely on cultivated land. Project siting aligns with the *Directive*, and AEP-FWS has assessed the risk to native habitat as low.

Valley Breaks

Project infrastructure is sited a minimum of 100 m from valley and coulee breaks. This aligns with the *Directive*.

Lakes and Large Waterbodies

The Project siting has avoided named lakes, and large permanent watercourses by at least 1,000 m. This aligns with the *Directive*.

Wetlands

The Proponent has identified six seasonal wetlands (Class III) that will have solar panels and other infrastructure permanently built through the wetland (Table 2). A further four seasonal wetlands (Class III) and one semi-permanent wetland (Class IV) will have their 100 m buffers permanently impacted by Project infrastructure (Table 2). This does not align with the *Directive*.

Table 2. Seasonal (Class III) and semi-permanent (Class IV) wetlands with direct impacts or impacts to the 100 m setback proposed by the Dunmore Solar Project.

Wetland ID	Wetland Class	Proposed Infrastructure Type within Setback	Proximity of Infrastructure to Nearest Edge of Wetland (m)
WT-03	Seasonal (Class III)	solar panels, fencing	0
WT-06	Seasonal (Class III)	solar panels, collector lines, access road	0
WT-08	Seasonal (Class III)	solar panels	0
WT-209	Seasonal (Class III)	fencing, solar panels	28
WT-210	Seasonal (Class III)	fencing, solar panels	30
WT-218	Seasonal (Class III)	solar panels	20
WT-222	Seasonal (Class III)	solar panels, collector lines, access road	0
WT-425	Seasonal (Class III)	access road	45
WT-618	Seasonal (Class III)	collector lines, access road	0
WT-623	Semi-permanent (Class IV)	fencing, solar panels	40
WT-66	Seasonal (Class III)	solar panels, collector lines, access road, fencing	0

The Project is located within Sensitive Amphibian range; however, surveys for sensitive amphibians (Great Plains toad and plains spadefoot toad) were unable to be conducted because appropriate rainfall requirements were not met. Therefore, as a precautionary measure, AEP-FWS considers all seasonal and semi-permanent wetlands in the Project area to be potential breeding ponds for sensitive amphibians. The Proponent has committed to redoing sensitive amphibian surveys at all seasonal and semi-permanent wetlands prior to construction, and will notify AEP-FWS of results. In addition, the Proponent has committed to the following mitigation measures during construction within the 100 m setback of wetlands:

- Construction will be conducted during frozen ground conditions. If construction under frozen ground conditions is not possible, rig matting will be placed to prevent compaction of hibernating amphibians.
- Construction will not occur during sensitive amphibian periods (e.g. ground conditions conducive to emergence, dispersal of young, high amphibian abundance) from April 1 to August 31.
- Silt fencing will be erected around all wetlands between the wetland and construction activities, to avoid amphibians moving into the construction area.
- An experienced wildlife biologist will be onsite during construction to monitor for amphibian presence and relocate amphibians as required.

It is unlikely that sensitive amphibians will use wetlands that have been cultivated through in the past for breeding habitat. However, the alternative mitigations proposed by the Proponent do not protect wetland habitat from permanent loss, given that Project infrastructure is proposed to be built directly through six seasonal wetlands. This does not align with the *Directive*, and AEP-FWS has assessed the risk to wetland habitat as high.

Watercourses

The Project is not sited within the setback of any intermittent, small or large permanent watercourse, which aligns with the *Directive*.

WILDLIFE DISTURBANCE AND MORTALITY

Wildlife Movement and Fencing

The proposed fencing will be 1.8 m tall (chain link), with three strands of barbed wire and driven posts. The barbed wire will be marked to make it more visible to wildlife, and the fence will be raised off the ground by 4 cm to prevent brood separation or wildlife entrapment. Small corridors will also be gated off to prevent entrapment. These commitments will reduce the risk of wildlife entrapment caused by the fence and are consistent with the *Directive*. The risk of the fence design to wildlife is assessed as low.

Migrating Birds

During spring migration surveys in 2019, a total of 402 birds from 32 different species were identified, which resulted in an average of 0.56 bird observations per minute. The most commonly observed bird guilds were passerines (66% of all observations) and gulls/terns (16% of all observations). The most abundant species were western meadowlark, California gull, and Lapland longspur, all of which are listed as 'Secure'. Give species of management concern were observed during spring surveys: chestnut-collared longspur (9), ferruginous hawk (8), long-billed curlew (12), peregrine falcon (1) and Sprague's pipit (2).

During fall migration surveys in 2019, a total of 544 birds from 25 species were identified, which resulted in an average of 0.76 bird observations per minute. The most commonly observed bird guilds were passerines (69% of all observations) and waterfowl (14% of all observations). The most abundant species were horned lark, western meadowlark, and Canada goose, all listed as 'Secure'. Two species of management concern were observed during fall surveys: ferruginous hawk (8), and prairie falcon (1).

As the Project is sited away from landscape features associated with increased bird activity during migration (e.g., valley/coulee breaks, large waterbodies), it is not expected to pose an elevated risk to migrating birds. This is aligns with the *Directive*, and the risk to migrating birds is assessed as low.

Breeding Birds

Songbirds and waterbirds: Results from the 2020 breeding bird surveys for songbirds and waterbirds (including waterfowl, shorebirds, grebes, loons and pelicans) show 227 birds from 28 species were observed. This equates to an average of 1.75 bird observations per minute. The most abundant species observed were vesper sparrow, western meadowlark, and horned lark, all common species. Three species of management concern were observed during breeding bird surveys: chestnut-collared longspur (3), great blue heron (2), and long-billed curlew (4).

The results of the breeding bird surveys show low activity, and few species at risk in the Project area. This aligns with the *Directive*, and the risk to breeding birds is assessed as low.

Raptors: Raptor nest surveys conducted in 2020 found four active raptor nests (Table 3). Three of the nest setback requirements will be met, but one ferruginous hawk nest will have its 1,000 m setback impacted by both temporary and permanent infrastructure. The ferruginous hawk nest is located on a transmission tower, adjacent to Range Road 43.

Table 3. Active raptor nests observed within the Project area.

Nest ID	Species	Location of Nest (UTM NAD 83, 12U)		Required setback (m)	Is the required setback met?	Distance to nearest project related disturbance (m)
DUSWHAN03	Swainson's hawk	536221	5542471	100	Y	101
DUSWHAN04	Swainson's hawk	538460	5542571	100	Y	121
DUFEHANO2	Ferruginous hawk	537130	5541624	1000	N	818
DUGHOWN01	Great horned owl	537216	5541371	100	Y	876

The ferruginous hawk nest setback will be impacted by 792 m of new and upgraded access road and 808 m of underground collector line. The Proponent has committed to the following mitigation measures to reduce the disturbance to the breeding ferruginous hawks during construction and operations:

- Construction within the setback will occur outside of the breeding season (April 15- August 31).
- Project traffic will avoid the use of Range Road 43 to avoid disturbing the nest, and traffic will observe a maximum speed limit of 30 km/h on all roads within the Project area.

The mitigation commitments align with the *Directive*, and are sufficient to limit the risk of disturbance to breeding raptors. The risk to breeding raptors is assessed as low.

The Proponent has committed to updating raptor nest surveys every two years until the project is commissioned. If an active raptor nest is identified, the Proponent has committed to implementing mitigation measures that align with the *Directive* to reduce disturbance to breeding raptors.

Sharp-tailed Grouse: Sharp-tailed grouse lek surveys conducted in 2019 found one active lek (Table 4). The 500 m setback will not be impacted by Project infrastructure. The risk to sharp-tailed grouse is assessed as low.

Table 4. Active sharp-tailed grouse leks within the Project area.

Nest ID	Location of Nest (UTM NAD 83, 12U)		Required setback (m)	Is the required setback met?	Distance to nearest project related disturbance (m)
DUSTGRL01	536973	5539991	500	Y	1,231

The Proponent has committed to updating sharp-tailed grouse lek surveys every two years until the project is commissioned. If an active lek is identified, the Proponent has committed to implementing mitigation measures that align with the *Directive* to reduce disturbance to sharp-tailed grouse leks.

Burrowing Owls*:* Burrowing owl surveys conducted in 2020 did not find any nests/dens or burrowing owl activity within 500 m of the Project area. The risk to burrowing owls is assessed as low.

The Proponent has committed to updating burrowing surveys every two years until the project is commissioned. Burrowing owl surveys will need to be updated in 2021 to remain current. If an

active burrowing owl nest is identified, the Proponent has committed to implementing mitigation measures that align with the *Directive* to reduce disturbance to burrowing owls.

Bird Mortality

Aboveground collector lines are a risk of avian mortality due to collision or electrocution. Additionally, the presence of above ground structures could increase perching opportunities for avian predators, which could increase mortality. The Proponent has committed to installing all electrical transmission and collection lines and cables underground, which is consistent with the requirements of the *Directive*.

To reduce the mortality risk to breeding birds, the Proponent will schedule vegetation clearing and vegetation maintenance (e.g. mowing) outside the breeding bird restricted activity period (April 15 to August 30). If vegetation clearing/maintenance must occur during this breeding period, nest sweeps will be completed by an experienced wildlife biologist prior to vegetation clearing. Nest sweeps will be completed no longer than 7 days prior to work commencement. If nests or nesting behaviour (including but not limited to alarm calling, carrying nesting material, food or fecal sacks) are detected, a species-specific setback (minimum 100 m) will be applied until young fledge. Nest status can be checked by an experienced wildlife biologist after the anticipated end date.

The Proponent has also identified that weed management may be needed more frequently in the first three years following construction. The Proponent will schedule weed managment outside the breeding bird season, and if it must occur during the breeding season (April 15 to August 30), the Proponent will conduct nests sweeps as described above prior to spraying.

The Project is sited away from named lakes, large permanent watercourses, valley/coulee breaks and on previously disturbed land, which reduces the habitat quality for wildlife and results in lower mortality risk for the Project. AEP-FWS has conducted a bird risk assessment based on the migration and breeding bird data, and it was determined that most species observed are currently listed as secure and seven species at risk were observed in moderate abundance. AEP-FWS has assessed the bird mortality risk to be moderate because the Project is sited on previously disturbed land with some species at risk activity. If mortality is found to be high, the Proponent has committed to mitigating wildlife mortality as discussed in the below section titled, *Post-Construction Monitoring and Mitigation*.

Snake Hibernacula and Mortality

The Project has been sited within 500 m of sensitive snake range and there is potential to have high snake activity. No snake hibernacula surveys were required because there was no suitable habitat for hibernating snakes within 500 m of the sensitive snake range.

The Proponent has committed to snake training and awareness for all workers and personnel, and has committed to the following mitigation measures:

- A speed limit of 30 km/h will be enforced from April to September during construction and operation.
- If silt fencing is used from April to September, a monitor will inspect the length of the silt fence daily for trapped snakes. Trapped snakes will be reported, and an experienced wildlife biologist will be brought in to remove and relocate trapped snakes.

- All injured and dead snakes will be reported, and an experienced wildlife biologist will be consulted with to determine if further action is necessary.

These commitments are align with the *Directive*, and the risk to snakes is assessed as low.

CONSTRUCTION AND OPERATION MITIGATION

AEP-FWS requires the construction and operation mitigation plan, which outlines construction techniques, mitigation and standard operating procedures, will meet the requirements outlined in Stage 3 of the *Directive.* The mitigations outlined in the *Dunmore Solar Energy Project Application* and *Responses Spreadsheet* will be implemented with the intent to reduce disturbance to wildlife and wildlife features (house, nest, den, etc.). This does not preclude any liability under the *Wildlife Act*, the *Species at Risk Act*, or other legislation. AEP-FWS considers all injured or dead wildlife found in the Project area during construction and operation of the facility to be caused by the facility. In the event that injured wildlife is found, AEP-FWS will be notified and the Proponent will act in accordance with regulatory direction and requirements. All wildlife mortalities must be reported to AEP-FWS.

POST-CONSTRUCTION MONITORING AND MITIGATION

AEP-FWS requires the post-construction monitoring and mitigation plan to meet the requirements outlined in Stage 4 of the *Directive.* The proponent has committed to post-construction monitoring for the proposed Project following minimum standards outlined in the *PCMP Protocol*. A Wildlife Research Permit and Collection Licence must be obtained from AEP-FWS prior to conducting the post-construction monitoring surveys and all surveys and analysis must be conducted by an experienced wildlife biologist as defined in the *Directive*.

Notable wildlife observations as well as observed changes in wildlife behavior, species composition, or potential threats to wildlife during the post-construction monitoring period will be documented and reported.

A detailed report of the post-construction monitoring will be provided to AEP-FWS and the Alberta Utilities Commission (AUC) annually by the end of January the year following the mortality monitoring period, as per Standard 100.4.7 of the Directive.

Should carcass surveys, at any time, result in unusually high fatality numbers or fatalities of species at risk (provincially and/or federally listed, including species provincially listed as 'sensitive') carcasses must be collected, frozen, and submitted to AEP-FWS. The Proponent must *immediately* notify AEP-FWS and the AUC of the mortality event and then discuss mitigation measures

The Proponent has committed to operational adaptive management strategies related to avian impacts or other wildlife disturbances related to the operation of the Dunmore Solar Energy Project. Should adaptive management be required, specific strategies will be developed and implemented in agreement with AEP-FWS. Potential mitigation measures for excessive wildlife fatalities may include, but are not limited to:

- the use of avian deterrents;
- white gridlines on solar panels;
- increasing panel row spacing;

- installation of nest deterrents to prevent nesting of raptors/corvids; and
- any mitigation that is deemed appropriate based upon the site specific circumstances following consultation and agreement by AEP-FWS.

Mitigation plans will be submitted for review and agreement by AEP-FWS. If post-construction mitigation is required, as determined by AEP-FWS, at least two additional years of monitoring will be required to determine if the mitigation is successful at reducing the fatalities to acceptable levels, as per the *Directive.*