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Note: Text has been edited for clarity.

Contents: **Transcript**
Additional Questions

Adverse Events at Research Animal Facilities

Speakers: Swapna Mohan, DVM, PhD, Division of Policy and Education, OLAW, and Neera Gopee, DVM, PhD, Division of Compliance Oversight, OLAW.

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Slide 1-2 (Adverse Events at Research Animal Facilities)
>>*Susan:* Hello, today is December 7th, 2017. I'm Susan Silk the Director of Policy and Education at OLAW. Welcome to the OLAW Online Seminar, Adverse Events at Research Animal Facilities. Today I am very pleased to welcome our in-house speakers, Drs. Swapna Mohan and Neera Gopee.

Dr. Mohan is an Animal Welfare Program [Scientist] in the Division of Policy and Education at OLAW. Swapna obtained her BVSc degree from Kerala Agricultural University, and her PhD in Molecular and Integrative Physiology from Cornell University. Prior to joining OLAW, she was a researcher in the field of reproductive physiology and has used several interesting animal models in her research, including North American bats, pigs, and mice.

Dr. Gopee is a Veterinary Medical Officer in the Division of Compliance Oversight at OLAW. Neera obtained her DVM degree from the University of the West Indies, and her PhD in Toxicology at the University of Georgia. She is a Diplomate of both the American College of Laboratory Animal Medicine and American Board of Toxicology. Prior to joining OLAW, she served as a VMO at the National Center for Toxicological Research, FDA in Arkansas.

Welcome to webinar, Swapna and Neera.

Slide 3 (Contents)
>>*Swapna:* Thank you, Susan. Hello everybody! Today we are going to talk about adverse events at research animal facilities. The basis for this presentation is a recent OLAW publication in the June 2017 issue of the journal *Lab Animal*, with the same title, Adverse Events at Research Facilities. The paper is available as supplementary material on the link labeled "Handouts" on the control panel. This paper, as well as today's talk,

focuses on the types of adverse events for facilities to consider when assessing risk and developing an overall disaster plan. We will discuss how to understand and categorize adverse events, so animal program personnel can take appropriate steps for minimizing their impact when they do occur. We will also discuss reporting requirements to OLAW in the event of a disaster.

Slide 4 (What are Adverse Events?)
When we talk about disasters, we think about large scale events such as hurricanes, tornadoes, and earthquakes. But these are not the only types of events we need to be prepared for. So what are adverse events? We can describe them as unexpected incidents that lead to harm or endanger the wellbeing of animals and humans at a research facility. Now this is a very broad term that can cover many types of unforeseen events such as weather related incidents, accidents, mechanical failure, animal husbandry related issues – basically anything that can result in actual harm or death of animals.

Many adverse events are preventable, and if not entirely preventable, at least their effects can be minimized or reduced in some way. And this can be done if we can anticipate some of these events and their effects. So, I will also talk about some adverse events documented by OLAW over the years.

Slide 5 (Examples of Adverse Events)
Weather related disasters are part of adverse events. This is 2017, and as of October of this year NCEI (National Centers for Environmental Information) has reported over 15 natural disaster events across the US. And these were the big events that caused more than 1 billion dollar losses each.

However, in the case of animal research programs, we must also consider small scale events, such as flooding in a single facility. And this is because we house hundreds of animals in research facilities, and take care of them throughout their entire lives. Because these animals are confined, they cannot escape on their own, and are completely dependent on us for their survival. And so, accidents, mechanical failures, veterinary care issues, and husbandry issues, should also be considered adverse events and prepared for.

Slide 6 (Preparedness and Risk Mitigation)
Each research animal facility is unique in terms of its specialization, location, size, animal numbers, biosecurity level, construction, and organization. So each facility will have its own unique vulnerabilities. And these should be taken into consideration when planning mitigation efforts. This can best be done by reviewing prior adverse events and their secondary effects. Getting an idea about what is most likely to go wrong is helpful when trying to identify flaws or weaknesses and to test out emergency plans that are in place.

Slide 7 (Categorizing Adverse Events Into a Matrix)
Because each animal facility is different, adverse events may pose a unique set of challenges, and subsequently cause unanticipated effects. In order to plan effective

preventive measures, it is useful to identify and predict threats and then categorize them into a matrix. The matrix can account for factors such as the probability of occurrence, the critical system or function that may be disrupted, or the level of impact, whether it is widespread or contained within your facility. Based on ranking in this matrix, you can make action plans, prioritize the action plans, and coordinate mitigation efforts.

Slide 8 (Identifying Critical Systems and Functions)
Animal programs have some common basic elements including availability of food and water, power source, maintenance of ventilation and ambient temperature, maintenance of biosafety levels, and prevention of animal injury and escape. It's important to identify the most critical functions and the key components and systems required for those functions. For example, facilities that have experiment-specific substances such as radioactive materials, biohazards, chemical carcinogens, infectious agents, and toxins may have higher biosafety and security levels, and additional measures such as those for carcass disposal.

Slide 9 (Building the Matrix: Unanticipated Effects)
A disruption of one element can affect multiple, seemingly unrelated areas. So the next step would be to compare adverse events and their secondary effects to try to identify the systems that may be disrupted the most. How would X affect Y? As an example, a hurricane at a large university town once caused deaths of a roomful of rodents not by drowning or cold, but by heat exhaustion. What happened there was flooding of streets during the hurricane caused cooling of steam lines, which then disrupted the ventilation in a few rooms. Now this is a completely unanticipated effect of a hurricane. And I am not saying all possible outcomes can be mapped out, but it's good to keep in mind that there may be many more effects of a single event than we would ordinarily anticipate.

Slide 10 (Adverse Events Matrix: Extensive Events)
The table on this slide and the next one shows a matrix that I have built, where events are categorized based on the extent of their impact and the cause. I would like to show you the types of information that may be helpful to consider for different types of emergencies. For example, in this slide I have considered the extent of damage and categorized large scale disasters that cause widespread damage as extensive events. I have broken them down into natural, technical, and civil adverse events based on the cause; and then made further subcategories based on the nature of the event such as biological or seismic. The matrix then goes on to show possible secondary effects of each. You can also rank them based on the risk of occurrence and their potential impact.

Slide 11 (Adverse Events Matrix: Contained Events)
Similarly, here I have categorized contained adverse events, which are smaller scale issues that you encounter in the routine function of a facility, and whose effects are limited. I have broken these down into inadvertent and deliberate; and then further subcatorized them based on cause such as biological or mechanical. Once you start listing them, you'll notice that many adverse events have similar or converging secondary

effects. They affect some of the same critical functions and systems. You can read more about the categorization in the Adverse Events publication that I mentioned.

Slide 12 (Extensive Adverse Events: List of Available Resources)
In addition to the matrix, you can develop other materials for preventive efforts. One of the critical steps in preventive efforts is to put together information on the available resources. For a plan dealing with extensive adverse events, this may include a current list of contacts, a list of emergency or backup equipment, their location, brief instructions on their use, information on equipment capacities, where spare parts are located, and floor layouts with important areas labelled.

Slide 13 (Extensive Adverse Events: Communication Network)
Another essential component of an effective action plan is a robust communication network. It should connect the staff, administrators, technicians, and other personnel working at the institution, as well as local emergency responders. Some questions to consider when making a contact list would be, for example, who to contact for emergency supply of euthanasia materials? Or who to contact for the use or troubleshooting with certain equipment? Research personnel should be consulted when prioritizing animals for evacuation or euthanasia. And all contact information should be regularly updated.

Slide 14 (Extensive Adverse Events: Shelter in Place)
Institutions can have policies, SOPs, and action plans integrated into the larger institutional disaster plan to be implemented for emergencies. Sometimes, shelter-in-place plans are more feasible than evacuation, especially when transport is disrupted. However, in the wake of a disaster, there will be limited resources available and steps should be taken to minimize distress to animals as much as possible. A checklist of items to be considered for care, housing, and handling of animals can be of help. For example, what can be done for excessive heating or cooling, due to HVAC or power failure? Use of additional heating or cooling units on backup power is a possible solution, based on the size and animal load of the facility. For research animals it may be necessary to provide backup power to isolators and barriers as well. How much food and other provisions should be stored onsite? What measures are in place for restocking once you run out?

Slide 15 (Extensive Adverse Events: Evacuation Procedures)
If evacuation is decided upon, in a flood for example, procedures for moving animals, temporary housing locations, and transport should be agreed upon beforehand. Methods of prioritizing and triaging animals for evacuation procedures should be described. Procedures for possible animal escape should be addressed. Facilities should consider having capture equipment on hand in the event of escape or aggression. Agreements or Memoranda of Understanding can be developed with partner institutions in advance.

Slide 16 (Extensive Adverse Events: Euthanasia)
If certain animals cannot be evacuated, or cannot be cared for while sheltering in place during a disaster event, humane and timely euthanasia should be addressed in those

cases. Prioritization of animals for euthanasia should also be addressed during planning. Research personnel should be consulted, as they have the most information on strains and lines of animals, and relative importance of each to research. Ensure that materials needed for a large scale euthanasia are on hand in adequate quantities. Ensure that personnel participating are adequately experienced in euthanasia procedures. Logistics of disposal of carcasses is another item to be considered. It may not be possible to immediately dispose of a large number of carcasses after euthanasia. Temporary storage of carcasses away from food and water supplies should be considered in that case.

Slide 17 (Extensive Adverse Events: Personnel Training)
To be effective, an action plan requires adequate training and practice. Most of us are familiar with fire drills because of frequent rehearsals. The main steps in advance training and preparation are to identify essential personnel for implementation of each aspect of the action plan. Outline specific tasks handled by each person or team, such as provision of food and water, veterinary care, and specialized care for certain species. Practice a walk-through of the steps of the action plan. Identify emergency equipment and other important materials. Explain the basic steps of using them. Practice rehearsals with empty cages and containers. Encourage participants to think of various “what-if” scenarios during the rehearsal, and try to anticipate any problems. Give a copy of the action plan to the local emergency personnel. They may be able to provide helpful suggestions and recommendations.

Slide 18 (Testing of Equipment)
Regular testing of equipment is also recommended. Testing can be done either separately or as part of practice exercises. Regular maintenance and servicing of equipment should be routinely conducted.

Slide 19 (Commonly Reported Adverse Events)
Large scale disasters that cause an institution-wide animal welfare issue are rare. Many adverse events are contained and easily correctable. A couple examples of commonly reported adverse events are death during transport and inadequate post-surgical care. These fall into the category of contained adverse events, as their impact is contained within the facility. Action plans for death during transport would include preventive measures such as climate-controlled, ventilated vehicles, appropriate stacking of cages, reducing holding and loading times, and taking the shortest transit time, if possible. Death or distress due to inadequate post-surgical care can be addressed by encouraging personnel to do thorough and frequent checks. Staff should follow approved protocol and provide post-surgical analgesia even in the absence of pain symptoms. There are some more examples available in the Adverse Events publication.

Slide 20 (Contained Adverse Events: Available Resources)
You can create a list of available resources for contained events similar to the extensive events resource list. Information from the larger resource list may be useful, like where to obtain backup equipment and brief instructions on their use. Additional items included

may be, for example, alternate rooms or sections the animals can be moved into in case of a disruption in one area. Or contact information for service persons for help with specific equipment such as laminar flow hoods.

Slide 21 (Contained Adverse Events: Communication Network)
The communication network for contained events can be on a smaller scale, involving primarily the attending veterinarian, the facility director and administrators, principal investigators, and animal care staff. Local responders may be included here, for example, campus emergency services to be notified in case of after-hours failure of incubators and freezers.

Slide 22 (Action Plan for Contained Events)
Action plans for contained events depend upon the individual situation. So, a prediction of possible effects using the matrix described above will be helpful. Most animal study protocols address possible events such as reaction to drugs, post-procedural problems, etc. A suitable action plan can be added to this, or can be a separate document such as a checklist of items to do. And now we have with us, Dr. Neera Gopee, from OLAW's Division of Compliance Oversight, to review the reporting requirements for adverse events when disaster strikes.

Slide 23 (PHS Policy Philosophy)
>>*Neera:* Thank you Swapna and hello everyone! It is important to understand that the underlying foundation of the PHS Policy is one of institutional self-evaluation, self-monitoring, and self-reporting. Before addressing the disaster notification procedures to OLAW, I'll first provide a brief overview of the general PHS reporting requirements.

Slide 24 (Routine Reporting Requirements)
Based on the PHS's philosophy of self-reporting, here's what you must promptly report to OLAW:

a. any serious or continuing noncompliance with the PHS Policy;
b. any serious deviation from the provisions of the *Guide*; or
c. any suspension of an activity by the IACUC.

Slide 25 (Routine Reporting Requirements)
Since the PHS Policy requires a full explanation of circumstances and actions taken, the time required to fully investigate and devise corrective actions may be lengthy. Under normal circumstances, an authorized institutional representative should provide a preliminary report to OLAW as soon as possible. This should be followed-up with a thorough report once action has been taken. You may submit preliminary reports as a fax, email, or phone call.

Slide 26 (What to report to OLAW?)
Assured institutions are responsible for notifying OLAW about conditions that jeopardize the health or wellbeing of animals. These conditions include natural disasters, accidents,

and mechanical failures which result in actual harm or death to animals and that is what we're going to talk about today. What, when, and how to report when disaster strikes. For more information about prompt reporting requirements under normal circumstances, you may refer to OLAW's Guide Notice on our website [NOT-OD-05-034].

Slide 27 (Disaster Reporting Requirements)
Now let's focus on today's topic of the disaster reporting requirements. The United States experienced an unprecedented number of hurricanes in 2017, with several states and territories impacted, namely Texas from Hurricane Harvey, Florida from Hurricane Irma, and Puerto Rico from Hurricane Maria. During an accident or natural disaster, it is likely that you will have program or facility deficiencies, which cause injury, death, or severe distress to animals. Similar to the routine reporting requirements, institutions must report any serious or continuing noncompliance with the PHS Policy; any serious deviation from the provisions of the *Guide*; or any suspension of an activity by the IACUC.

Slide 28 (Disaster Reporting Requirements: Acute Crisis Phase)
Do the same prompt reporting requirements apply when faced with a crisis? In emergency situations, OLAW's immediate concern is for the health and safety of people and animals in the programs we oversee. In the event an Assured institution is located in a Federal Emergency Management Agency, or FEMA, declared disaster area, OLAW, at its discretion, may issue a temporary waiver of the prompt reporting requirement to allow affected institutions to focus their efforts on recovery, assessment of damage, and stabilization of programs.

Slide 29 (NIH Extramural Natural Disaster and Emergency Response)
NIH is also deeply concerned about the health of the biomedical enterprise in the affected area and is committed to working with researchers and institutions to do everything possible to ensure that NIH-funded research continues. For major disasters impacting many institutions, NIH will coordinate with other federal agencies such as [US Department of] Health and Human Services, HHS, the Federal Emergency Management Agency, FEMA, and the Office of Management and Budget, OMB, as well as with state, local, and institutional representatives, to develop any additional response. NIH will consider such issues as whether a federal disaster is declared; the severity of damage inflicted; the length of time an institution may be required to close or that is required for recovery; the impact on investigators, human research subjects, and animal subjects; and the overall impact on the community.

Slide 30 (Disaster Reporting Requirements: Post Acute Crisis Phase)
Answers to the question of when to report when disaster strikes will vary depending on the circumstances. Institutions must report serious noncompliance and departures from the *Guide* to OLAW as specified in the PHS Policy only after attending to the critical needs of ensuring the health and safety of personnel and animals. It is OLAW's expectation, that institutions contact us as soon as possible and when feasible. Preferably after the acute crisis phase when you have had opportunity to fully determine the extent of losses.

Slide 31 (Disaster Reporting Requirements: Post Acute Crisis Phase)
The next question that comes to mind is how should you report? Well, you should report by whatever method is available to you, whether it be telephone, email, fax, or text messaging [Correction: texting is currently not available]. If no damage or impact to your program was sustained, reporting is not necessary. As your institution begins to emerge from the acute crisis phase, there will undoubtedly be actions that take immediate priority because of the need to mitigate or prevent further losses. Such priorities include relocating animals, saving frozen tissues and samples, and recovering essential computer files and other records.

Slide 32 (Disaster Reporting Requirements: Recovery Phase)
Next comes the difficult task of rebuilding. At this stage, OLAW really does need to know more about the institution's "reasonable and specific plan and schedule" to get back to a fully compliant state. PHS Policy does allow for certain deficiencies to exist at Assured institutions provided that they have been identified, along with credible correction plans which are often negotiated with OLAW through the prompt and annual reporting processes.

Slide 33 (Disaster Reporting Requirements: Long-Term Recovery Phase)
Think of the long term disaster recovery efforts in the same context as you would when correcting more routine facility or program deficiencies. Though often on a different scale of importance, the semiannual facility inspection and program review process provides a good model for addressing the disaster recovery phase. This should include establishing specific target dates for correction. You should monitor progress on an ongoing basis until your task is complete. Sometimes a recovery plan requires the development of interim plans. While some damaged facilities may not be suitable for their original design function, they may still be satisfactory to support a more limited role. For example, a damaged building HVAC system may not provide adequate ventilation for animal housing at full capacity, yet it may be acceptable for reduced population loads or lower levels of isolation or containment.

Slide 34 (Why Contact OLAW?)
OLAW would like to hear from institutions as soon as you are able to reach out to us as the acute crisis ends. But, before the inquiries about your animals start coming in to us. We get inquiries from the NIH Director, Congress, media, animal interest groups, and from the public. It is important for us to be able to reassure interested parties that we know what is happening and that you are doing everything possible to take care of the animals at your facility.

Another reason to contact our Office is because we might be able to provide assistance. We may be able to facilitate interim assistance by approving interinstitutional agreements and appropriate modifications to Assurances. We may have access to resources or contacts that can help your institution deal with the problems you may be faced with. We invite you or other animal program staff at your institution to call us with questions and

for advice and guidance regarding any animal evacuation, animal health, animal housing, IACUC activities, or occupational health and safety concerns related to the disaster and its aftermath. OLAW's immediate concern is to assist you in providing a secure and safe environment for the animals and employees in your programs.

We'd like also to hear from you because we are concerned for you. This ensures you address and correct situations that affect animal welfare, PHS-supported research, and compliance with the Policy. Now, I'll hand it back over to Swapna to wrap up this seminar.

Slide 35 (Resources)
>>*Swapna:* Thank you, Neera. Before we start taking questions today, I'd like to show you these helpful online resources. I would like to draw your attention to the first two, the OLAW disaster planning resources and the NIH extramural response to natural disasters.

Slide 36 (Additional Resources)
This is the OLAW webpage on disaster planning and response. We have several resources available on here such as information to consider when developing a plan, useful references, and templates from the disaster response plan of the NIH Office of Animal Care and Use. There are several publications and reports from previous years, and findings and recommendations from recovery efforts during past events. We also have information from other federal agencies such as the CDC, USDA APHIS, and FEMA.

Slide 37 (Additional Resources Cont.)
This is a list of resources from the Office of Extramural Research on the NIH response to emergencies. This page lists the assistance provided by NIH to the research community during emergencies such as waiver of certain approval requirements, extension of grant deadlines and reporting deadlines, permitting use of award funds for specific unexpected actions, and funded extensions or supplements to affected institutions. There are Guide Notices and other guidelines issued by the NIH in response to recent adverse events. And there is a link to a list of frequently asked questions in the event of major disasters.

And now we will happy to take any questions that you have.

Slide 38 (Questions?)
>>*Susan:* Thank you, Swapna. Now we will answer several questions that we received before the webinar. We also welcome live questions from our participants in the audience now. Please type them into the questions pane on your control panel. If you think of a question later, after the broadcast, you can send it to OLAW at the email address provided on the slide [olawdpe@mail.nih.gov].

Slide 39 (Question 1)
How many cases of adverse events are reported to OLAW in a year on average?
>>*Swapna:* The short answer is: we don't know. OLAW doesn't record noncompliance reports as adverse events. We've received about 765 noncompliance reports last year, in

2016. However, we do not collect data on adverse events specifically. The reports deal with matters ranging from husbandry issues to protocol issues and institutional policy issues. Most categories of noncompliance cases contain reports of adverse events, but no category is entirely made up of cases of adverse events.

Slide 40 (Question 2)
>>*Susan:* **During a recent adverse event, our animals suffered some distress because of higher temperatures in our animal facility. This was soon detected and corrected. No animal deaths occurred due to this incident. Should this be reported to OLAW?**
>>*Neera:* Yes, it should. Although no animals died as a result of the elevated temperatures, animals did experience distress. If the elevated temperatures exceeded the recommended temperature range and parameters for the species in the *Guide* and there was no scientific justification and IACUC approval for the elevated temperatures in the affected rooms, then it is reportable to OLAW.

Slide 41 (Question 3)
>>*Susan:* **Is the IACUC expected to meet and vote during a long lasting emergency event?**
>>*Swapna:* Yes, if face-to-face meetings are not an option, the IACUC can use alternatives such as teleconference or video conferencing. These methods are acceptable as long as the forum allows for real time interaction between the members, similar to a physically convened meeting. More information on this is available in the Guide Notice NOT-OD-06-052. Other options are to have fewer meetings. The *Guide* allows a minimum of one meeting every 6 months. Additionally, the IACUC may choose to do more Designated Member Reviews.

Slide 42 (Question 4)
>>*Susan:* **Our facility sustained flooding following a hurricane and animals died. These animals were not on a PHS-funded study. Is this reportable to OLAW?**
>>*Neera:* Yes, it is. Because the disaster affected the entire institution, it is considered programmatic. Plans and schedules for repairing the physical plant and relocating animals need to be reported to OLAW.

Slide 43 (Question 5)
>>*Susan:* **A power outage affected our vivarium and the back-up generator came on and kept temperature, lights, power to racks within the *Guide* parameters. Is this reportable?**
>>*Neera:* No, it is not because the back-up system worked and there were no serious deviations from the recommendations in the *Guide*.

Slide 44 (Question 6)
>>*Susan:* **How soon should a report be made after a disaster?**

>>*Neera:* Once the imminent disaster has been brought under control, OLAW should be contacted. Emergency response for humans, animals, and property should be first addressed.

Slide 45 (Question 7)
>>*Susan:* **Can OLAW provide help with drafting a disaster plan at our institution?**
>>*Swapna*: Not directly. We cannot review the disaster plan as part of your Animal Welfare Assurance. The disaster plan should not be sent to OLAW with your Assurance. However, we will review your disaster plan as part of the animal care and use program during a site visit. Additionally, we can direct you to resources to help with development of a disaster plan at your institution.

Slide 46 (Question 8)
>>*Susan:* **How have institutions fared in the recent hurricanes in Texas, and other places? Have you heard from those locations?**
>>*Neera:* We sure did. OLAW issued waivers for prompt reporting for all counties impacted by the recent hurricanes. We have been receiving feedback and some reports from institutions in the affected areas. Despite the heavy damages sustained during these events, so far most institutions have reported minimal animal welfare concerns.

Slide 47 (Questions?)
>>*Susan:* We would like to take live questions from our participants and we're waiting for Pat and Lori to bring those to the broadcast room. Have you guys been sending in your live questions? Does anyone have any comments? Here come the questions. Thank you.

Neera, [Question 9] **Aggression was listed as an adverse event in the matrix. Occasional aggression is most definitely expected when attempting to group house social species. Please explain further how expected aggression related to attempts at social housing fits with the definition of an adverse event or an unexpected event.**

>>*Neera:* Well, Susan, some aggression is expected, but severe injury or death as a result of the aggression should be reported to OLAW.

>>*Susan:* And here's one for Swapna. [Question 10] **Will OLAW plan to present prevent adverse events that are not limited to disasters such as animal-related illness or death for unexpected causes?** I don't understand that question. Will OLAW plan to present adverse events that are not limited to disasters?

>>*Swapna:* Are they asking if it will be part of adverse events? If it causes animal illness or death, then yes, it would be considered adverse events because it causes harm, distress or welfare issues.

>>*Susan:* So if the person who sent that in wishes to clarify the question, please give us some more details on what you're expecting.

[*Clarification of question:* **Will OLAW plan another presentation that addresses adverse events that are not disasters?**
>> We are still organizing the schedule for the webinar series for 2018, and are inviting suggestions for topics. If we hear of a strong interest on the topic of contained adverse events, we will certainly look into addressing it in one of our upcoming webinars.]

And here comes another batch of questions for us. [Question 11] **Is a government shutdown considered a situation that warrants disaster planning? Are there guidelines on acceptable use of government funds during a shutdown?** Pat, we might like you to comment on that. Let's hope we don't have a shutdown. Are you unmuted?

>>*Pat:* I'm unmuted. Hi, everyone. This is Dr. Brown, OLAW Director. The government shutdown situation – each government facility is expected to maintain what is considered essential resources to preserve the safety and wellbeing of not only humans that may be in a clinical environment that is under part of the government facility, but also animals. So there is provision already in place that animal facilities need to continue to be supported during a government shutdown.

>>*Susan:* Okay. And then, thank you, Pat. We'll move on to this question for Neera. [Question 12] **What is the time interval to report to OLAW?**

>>*Neera:* Well, it depends on whether it's a routine or a disaster response report and requirement. If it's a routine adverse event, then OLAW expects prompt reporting of a preliminary report, which means without delay. If it's a disaster-related reported incident, then we do expect that the health and welfare and the safety of personnel and animals are taken into consideration first during the acute crisis. And once this has been stabilized then we do expect reporting, at least a preliminary report on the incident at your institution.

>>*Susan:* And it's true, isn't it, Neera, that sometimes OLAW will issue a waiver for reporting. Can you say a little bit about that?

>>*Neera:* Yes. And we did this year actually for three hurricanes that impacted the US. We issued waivers for the prompt reporting and we do acknowledge that institutions have a priority to stabilize their program, to keep their personnel safe and the animals safe and secure. So we do expect that the reporting requirements are delayed as, again, once the acute crisis has ended and you have stabilized your program, we do expect that report to come in to us, at least to inform us of whether or not – how things are at your institution – so we have an idea of the animals. And again, because we would like to get these reports in before inquiries start coming in as well so we can assure everyone who is

concerned about your animals and your personnel that things are – of the situation that's occurring at your institution.

>>*Susan:* And that is done – issuing a waiver – is done at the discretion of OLAW, but it's my impression that typically we do that when it's a FEMA declared disaster, correct?

>>*Neera:* Yes, that's correct.

>>*Susan:* Okay. [Question 13] **Do disasters prompt an OLAW site visit?**

>>*Neera:* Not generally, not specifically. Our OLAW site visits may be random or for cause. If there is a reason for a site visit, OLAW will investigate and may in conjunction with other regulatory agents conduct a site visit, but having a disaster at your institution does not automatically prompt OLAW to conduct a site visit.

>>*Susan:* Here's a question that relates to your initial introductory slides about prompt reporting. The question is: [Question 14] **Are there PHS Assured facilities that never report and how are they viewed by OLAW?** And we view those with skepticism. We do not believe that facilities never have noncompliant items, so that is one of the factors that might encourage us to conduct a site visit to your institution. We're eager to see a perfect program. Neera?

>>*Neera:* And OLAW does not keep track of which institutions never report to us or not, we do not keep that data on file at OLAW. So we cannot confirm what institutions, how many institutions do not report to us of the domestically Assured institutions.

>>*Susan:* That's good to know. [Question 15] **If animals are housed in an outdoor enclosure during a hurricane, but containment is not lost and there are no animal deaths, does this need to be reported? Considering that the animals may be under some stress during the storm.**

>>*Neera:* I would say yes, although there were no animal deaths, there was some distress experienced by the animals and so reporting to OLAW the extent of damage sustained by the disaster, the hurricane, as well as the extent of the distress, how much animals were affected, what species were affected, that would be important for us to know as well as any remedial action that was taken by your institution.

>>*Susan:* This question is from an attending vet. [Question 16] **I have reported adverse events and told my IACUC that it should be reported. While they do this orally** (I assume they mean – he or she means – that they telephone us) **and tell me this report is not necessary. For example, a cage of mice flooded and died. Isn't this reportable?**

>>*Neera:* Yes, it is. Any incident that causes any adverse events to animals, whether injury or death or distress, is reportable to OLAW if it's PHS funded.

[*Participant comment:* Some deaths are not reported, such as a flooded rodent cage as long as it is not more than normal. This is in OLAW's own guidance.
>> To clarify, frequent problems of this nature must be promptly reported along with corrective plans and schedules for correction. However, infrequent incidents of drowning of rodents in cages when it has been determined that the cause was for example, water valves jammed with bedding, is not reportable to OLAW.]

>>*Susan:* [Question 17] **How does OLAW determine when an institution is fined for a violation?**

>>*Neera:* OLAW does not implement any fines to institutions. That's not under our authority. So it's not something that we do as part of our job description.

[*Clarification of question:* **How does OLAW determine if PHS funding is halted for a violation?**
>> Charges to grant awards for the conduct of live vertebrate animal activities during periods of time that the terms and conditions of the NIH Grants Policy Statement (NIHGPS) are not upheld are not permitted (see Guide Notice NOT-OD-07-044). Specific situations under which charges are not allowable are:

1. The conduct of animal activities in the absence of a valid Animal Welfare Assurance on file with OLAW.
2. The conduct of animal activities in the absence of a valid Institutional Animal Care and Use Committee (IACUC) approval of the activity. Absence of IACUC approval includes failure to obtain IACUC approval, expiration, or suspension of IACUC approval.

Institutions are required to report such situations to the Institute/Center (IC) supporting the award and to OLAW. In cases where charges have been made for unauthorized animal activities, appropriate adjustments must be made to the grant to remove those charges. Consultation with the IC, not OLAW, is encouraged regarding questions concerning allowable costs. Funding components may allow expenditure of NIH grant funds for maintenance and care of animals on a case-by-case basis.]

>>*Susan:* [Question 18] **If animals are humanely euthanized due to a receiving/labeling error, or if they are inappropriately segregated, would those incidents be reportable?**

>>*Neera:* Yes, it would if it's noncompliant with your policy or the AVMA [Guidelines for the Euthanasia of Animals] or if it was noncompliant with your approved protocol. So regardless of whether they were humanely euthanized, but if it was done out of compliance with your protocol or your policies, then it would be reportable to OLAW.

>>*Susan:* Swapna, here's one for you. [Question 19] **Are all deviations from the acceptable temperature range reportable? For example, if a room temperature is found to be low in a rodent room, but all the cages are provided with nesting materials or huts to preserve temperature, and no obvious negative effects on the animals are noted, should that be reported?**

>>*Swapna:* Well, if the deviation is still within the range recommended by the *Guide*, then it's not reportable, but if it goes further, then yes, that's a reportable incident.

[*Related Question 20 not address during webinar:* **A scheduled 6 hour power shut down effects the HVAC for 3 animal rooms. While the power was off, room temperatures were monitored by both electronic high-low temperature alarm systems and manual hourly assessments by qualified personnel. At no time did the room temperatures go outside of the temperature parameters as set forth in the guide. Is this a reportable incident?**
>> No, since the temperature parameters did not deviate from the provisions of the *Guide* and if no animal welfare concerns were identified as a result of the power failure then it is not reportable to OLAW.]

>>*Susan:* Okay. Thank you. And we're waiting for more questions to come up from Lori's computer. Okay. It looks like we've answered all of your questions.

And with that, we've come to the end of our online seminar on Adverse Events at Research Facilities. I would like to remind the listeners that if you have questions for us, you can submit them via the link provided on the OLAW webinars page or by email at olawdpe@mail.nih.gov. Our speakers will address them and the answers will be posted on the OLAW website.

Slide 48 (OLAW Online Seminars)
Thank you to Swapna and Neera for a wonderful talk. And I thank all of you for participating in our webinar, with special thanks to those who sent in questions. We look forward to continuing our OLAW webinar series in 2018. We are working on that schedule now and will post it as soon as it is ready. Good-bye and thank you for joining us today.

Additional Submitted Questions Not Addressed During the Webinar

[Question 21] **Does OLAW cross report adverse events to other agencies such as USDA, DoD, etc.? And if OLAW does cross report adverse events to other agencies, are the reporting institutions notified of the cross reporting, and to which agencies the event(s) were reported?**
>> OLAW has established several Memorandums of Understanding (MOU) with participating agencies, each operating under its own authority, that share a common

concern for the care and welfare of laboratory animals used in research and testing. The MOUs are intended to maintain and enhance agency effectiveness while avoiding duplication of efforts to achieve required standards for the care and use of laboratory animals. A representative from the participating agency will be copied in the final response memo that OLAW issues to the reporting institution.

[Question 22] **The expectation is that institutions report adverse events "without delay". What is the expectation regarding IACUC involvement in the reporting of adverse events, and the effect of IACUC involvement on the timing of a report to OLAW? Specifically, is the IACUC Chair or the AV expected to submit a preliminary report to OLAW before the IACUC members discuss the event at the next convened meeting? Or is a preliminary report after the next convened IACUC meeting appropriate?**
>> It depends. If the IACUC is not scheduled to meet within a reasonable timeframe, it is OLAW's expectation that a preliminary report be provided without delay by an authorized institutional representative until the IACUC can convene to fully investigate and devise a plan and schedule for correction. An authorized institutional representative, not necessarily the IO or AV can provide the preliminary report to OLAW.

[Question 23] **What do you consider as an abnormal adverse event?**
>> OLAW recognizes that there may be levels of morbidity and mortality in virtually any animal-related activity that are not the result of violations of either the Policy or the *Guide*. While adverse events cannot be clearly demarcated as 'normal' or abnormal', the NIH Guide Notice NOT-OD-05-034 provides examples of some such situations that are not normally required to be reported, such as animal death or injuries related to manipulations that fall within parameters described in the IACUC-approved protocol.

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