100-point Score Scale:

- The best possible inspection score is 100 and deficiencies generally cause the inspection score to decrease by some amount

Area, Sub-Area, and Item Scoring

- The total score of 100 is divided into successively smaller weights: (1) inspectable area, which divides into (2) sub-area, which is sliced into (3) items; this system creates limits on point deductions

Criticality and Severity Level:

- Each defect contains a predetermined severity and criticality level, which is multiplied by the item-based weight

Area	Typical % of Property Inspection Score
Units	35
Building Systems	20
Common Areas	15
Building Exterior	15
Site	15

Criticality Level	Multiplier Value
5	5.00
4	3.00
3	2.25
2	1.25
1	0.50

Severity Level	Multiplier Value
3	1.00
2	0.50
1	0.25

Draft NSPIRE Physical Inspection Model Features

UPCS Comparison to NSPIRE Scoring Model

UPCS	NSPIRE
Complex system of weightings, multipliers, and limits	Simplified four-step scoring system
Unsafe properties could still receive a passing score for a variety of reasons, including mechanisms of "capped" item and area weights	Unsafe properties will not receive a passing score due to focus on Health & Safety and Unit-based defects
Item and area weights could sometimes cause less important defects to disproportionately factor into inspection scoring	Defect Impact Weights table creates clear hierarchy of defect importance on Inspection Score

Under the draft NSPIRE Scoring Model, the four steps to score an inspection are summarized as follows:

Property Threshold of Performance

1. Count scorable defects at property and categorize them by severity and location. Multiply each defect by its corresponding value in **Defect Impact Weights** table (shown in slide 97) to yield *total defect points.*

2. Size-adjust *total defect points.*

3. Subtract *size-adjusted defect points* from 100 to calculate *0-100 score.*

Unit Threshold of Performance

4. Perform steps 1 and 2 above, but consider only defects located within Units.

NSPIRE Draft Scoring: Steps 1-3

- Steps 1-3 of the draft NSPIRE Scoring Model can be simplified by the following equation:

$$100 - (A/B) = \text{Property Threshold of Performance}$$

Where:

A = the *sum of all defect points*

B = the *number of units sampled (inspected) in that inspection*

- When the Property Threshold of Performance is less than (<) 60, the property fails its physical inspection

NSPIRE Draft Scoring: Step 4

- Step 4 of the draft NSPIRE Scoring Model can be simplified by the following equation:

$$(C/B) = \text{Unit Threshold of Performance}$$

Where:

C = the *sum of all defect points located within Units*

B = the *number of units sampled (inspected) in that inspection*

- When the Unit Threshold of Performance is greater than or equal to (>) 30, the property fails its physical inspection (i.e., the overall score is automatically set to 59)

Draft NSPIRE Physical Inspection Model Details

Defect Examples

	Outside	Inside	Unit
Life-Threatening	Gas dryer exhaust ventilation system has restricted airflow.	Structural system exhibits signs of serious failure.	Natural gas, propane, or oil leak.
Severe	Leak in sewage system.	Fire labeled door does not close and latch or self-close and latch.	Entry door cannot be secured.
Moderate	Trip hazard on walking surface.	Garage door does not open, close, or remain open or closed.	Sink is not draining.
Low	Water runoff is unable to flow through the site drainage system.	Refrigerator component is damaged such that it impacts functionality.	A passage door component is damaged, inoperable, or missing and the door is not functionally adequate.

NSPIRE Defect Impact Weights

- The draft **Defect Impact Weights** table shown below is the backbone of the scoring model

	Outside	Inside	Unit
Life-Threatening	49.6	54.5	60
Severe	12.2	13.4	14.8
Moderate	4.5	5	5.5
Low	2	2.2	2.4

Draft Unscored Defects

The following defects are not scored in recognition of REAC's long-standing practice:

- Smoke Alarm Defects
- Carbon Monoxide Alarm Defects

Draft Affirmative Defects

HUD understands that it may take properties' ownership and management some time to comply with standards that were not expressly covered under UPCS; therefore, it is expected that the following new "Affirmative" defects* are not scored in the first 12 months of NSPIRE inspections for the program:

- GFCI protected outlets within 6 feet of a water source
- Guardrails for elevated walkways
- Permanently installed heating source for certain climate zones
- Permanently mounted light fixture in the kitchen and each bathroom

* Though unscored, these defects must still be corrected within the allotted timeframe (e.g., 24 hours, 30 days)

Categorization into Letter Grades

Grade A	**Good condition with the least number of concerning defects. Aligns with "Standard 1 Performing Property."**	**Inspection every 3 years**	**>=90**
Grade B	**Good condition but with more concerning and yet easily addressable defects. Aligns with "Standard 2 Performing Property."**	**Inspection every 2 years**	**>=80<90**
Grade C	**Okay condition with higher number of concerning and yet addressable defects. Close monitoring is needed. Aligns with "Standard 3 Performing Property."**	**Inspection annually**	**>=70<80**
Grade D	**Challenged condition with high prevalence H&S defects that may not be easily addressable. Close monitoring is needed. Aligns with "Standard 3 Performing Property."**	**Inspection annually**	**>=60<70**
Grade E	**Failing condition with high prevalence of concerning H&S defects. Close, regular monitoring needed. Administrative action may be needed to protect residents.**	**Higher inspection frequency**	**>30<60**
Grade F	**Failing condition with extremely high prevalence of concerning H&S defects. Actions should be taken to protect residents. Referred to DEC.**	**Highest inspection frequency**	**<=30**

Passing Grade (Grades A, B)

Substandard Grade (Grades C, D)

Failing Grade (Grades E, F)

NSPIRE Score Calculation: Example

- **Example Property Z**
  - In this example, **Property Z** has been inspected. **20 units** were sampled across several different buildings and a total of **53 defects** were found at the property.
  - None of the defects at Property Z fell into the two exception categories: unscored or affirmative defects
  - The 53 defects can be categorized into the following Severity and Location buckets:

	Outside	Inside	Unit
Life-Threatening	0	4	3
Severe	0	1	7
Moderate	2	3	11
Low	5	3	14

- The following table counts the number of defects in each category at **Property Z**

	Outside	Inside	Unit
Life-Threatening	0	4	3
Severe	0	1	7
Moderate	2	3	11
Low	5	3	14

- Multiply the defect counts by the corresponding weights in the **Defect Impact Weight** table (see next slide for calculation)

	Outside	Inside	Unit
Life-Threatening	49.6	54.5	60
Severe	12.2	13.4	14.8
Moderate	4.5	5	5.5
Low	2	2.2	2.4

- **Step 1**: Use the count of defects and the Defect Impact Weights to calculate the sum of all defect points

	Outside	Inside	Unit
Life-Threatening	0	4	3
Severe	0	1	7
Moderate	2	3	11
Low	5	3	14

X

	Outside	Inside	Unit
LT	49.6	54.5	60
Severe	12.2	13.4	14.8
Moderate	4.5	5	5.5
Low	2	2.2	2.4

=

	Outside	Inside	Unit
LT	0	218	180
Severe	0	13.4	103.6
Moderate	9	15	60.5
Low	10	6.6	33.6

Value A = the sum of all defect points: **649.7**

100 − (*A/B*) = Property Threshold of Performance

After calculating value A above, the equation for Property Threshold of Performance = 100 − (**649.7**/*B*)

- **Step 2** Calculation:
  - Include the number of units sampled as value B in order to normalize by property size. As a reminder, in Example Z, 20 units were sampled
  - After including the number of units sampled as Value B, the equation for Property Threshold of Performance = $100 - (649.7/20)$

- **Step 3** Calculation:
  - Perform the math and subtract from 100
  - $100 - (32.5) = 67.5$

- **Property Threshold of Performance:**
  - Example Property Z would receive a Property Threshold of Performance of **67.5**, which would round up to **68**.

17

NSPIRE Draft Scoring: Step 4

- **Step 4** Calculation – consider only Unit defect points:

	Outside	Inside	Unit
Life-Threatening	0	4	3
Severe	0	1	7
Moderate	2	3	11
Low	5	3	14

X

	Outside	Inside	Unit
LT	49.6	54.5	60
Severe	12.2	13.4	14.8
Moderate	4.5	5	5.5
Low	2	2.2	2.4

=

	Outside	Inside	Unit
LT	0	218	180
Severe	0	13.4	103.6
Moderate	9	15	60.5
Low	10	6.6	33.6

Value C = the sum of all defect points located within units:

377.7

(C/B) = Unit Threshold of Performance

After calculating value C above and inputting value B for units sampled, the equation for Unit Threshold of Performance = (377.7/20) = **18.9**

- **Example Property Z Summary:**

Property Threshold of Performance:

Step	Notation	Property Z
Step 1	A	649.7
Step 2	B	20
Step 2	A/B	32.5
Step 3	100 − A/B	67.5 -> **68**

Unit Threshold of Performance:

Step	Notation	Property Z
Step 4	C	377.7
Step 4	B	20
Step 4	C/B	**18.9**

Property Z would have scored a Property Threshold of Performance of **68**, which corresponds to a passing score with letter grade **D**.

Since the Unit Threshold of Performance value is **18.9**, which is less than 30, Property Z would also pass its inspection under the Unit Threshold of Performance.

Draft NSPIRE Sampling Plan

Draft NSPIRE Sampling Plan

- **Not Finalized – currently undergoing calibration**

- Draft **NSPIRE Sampling Plan:**

  - Number of Units Sampled during inspections may increase under NSPIRE

  - Buildings *may* be inspected with a likelihood that is related to their number of units (e.g., buildings with higher unit counts are more likely to be inspected)

  - Resident-selected units may be supplemental to the Inspection Sample; these units will not be scored*

  * unless they are randomly selected as part of the traditional inspection sample process

NSPIRE
Questions and Feedback

NSPIRE@hud.gov or search for "HUD NSPIRE" found on HUD.gov

Follow Us On Twitter: @HUDREAC