Impact of Standard 55-2010 and Standard 189.1-2009

on Air Conditioning - the Discipline, ASHRAE and the Industry

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The author made this presentation during RACON in Kolkata on 16th March 2012. While the Journal has carried his articles on the subject in recent issues, this presentation looks at the subject from a different perspective. It focuses on comfort and the crucial importance of air movement, and brings home the fact that the Standard now covers naturally conditioned spaces more comprehensively. In addition, it explains how Adaptive Comfort now offers an entry path (the third of the three paths) for compliance to Standard 55. ***– Technical Editor***

What This Article is All About

The buzz today is about Green Buildings.

Maintaining thermal comfort is one of the main prerequisites for Green Buildings. Comfort is all about *ASHRAE Standard 55* and – at the present time, it is its 2010 Version.

Standard 55-2010

- impacts selection of comfort temperatures,
- offers compliance paths that are accepted for the Standard and of course for the Green Building *Standard 189.1*,
- lays accent on today's sustainability requirements, energy implications, the expansion of comfort zones and use of air movement as a powerful tool in achieving larger zones of comfort, especially in Naturally Conditioned (NC) spaces,
- application of Adaptive Comfort Approach and Adaptive Comfort Standard (ACS) helps in extend zones of comfort, especially for NC spaces,
- offers encouragement to engineers for designing solutions to exploit the benefits of extended comfort zone.

Other points of sugnificance highlighted are:

- Substantial energy savings can be achieved in Mixed Mode Systems (MMS) by applying Adaptive Approach to air conditioning system selections.
- Dwells on how the *Standard* impacts the air conditioning work and the latter, in turn, is impacted by Green Building *Standard 189.1* and its stake holders.
- Delivering Green Building performance is not easy. The article will concludes with a call to find ways and means to tackle this situation especially from the point of view of the air conditioning industry in our country - and in particular, the professionals engaged therein.

ANSI/ASHRAE/USGBC/IESNA Standard 55-2010: Thermal Environmental Conditions for Human Occupancy

Standard 55-2010 offers 3 compliance paths

a) Graphic Comfort Zone Method (GCZM) - for Typical Indoor Environments

b) Computer Model Method (CMM) - for General Indoor Application

c) Optional Method of Determining Acceptable Thermal Conditions in Naturally Conditioned Spaces - Adaptive Comfort Standard (ACS)

About the Author

R. V. Simha is a graduate in both electrical and mechanical engineering with over 40 years experience in HVAC. He is a past president of ISHRAE (1991-92), founder president of ASHRAE South India chapter (1999-2000) and an ASHRAE Fellow. Recently, he served as a corresponding member of several ASHRAE technical committees and his current interests are climate, comfort, room air movement, natural cooling and related topics. He can be contacted at *simha@airtron.in*

The First 2 Compliance Paths - GCZM and CMM

ASHRAE Comfort Chart Pre 2004 - The Fixed Temperature Standard

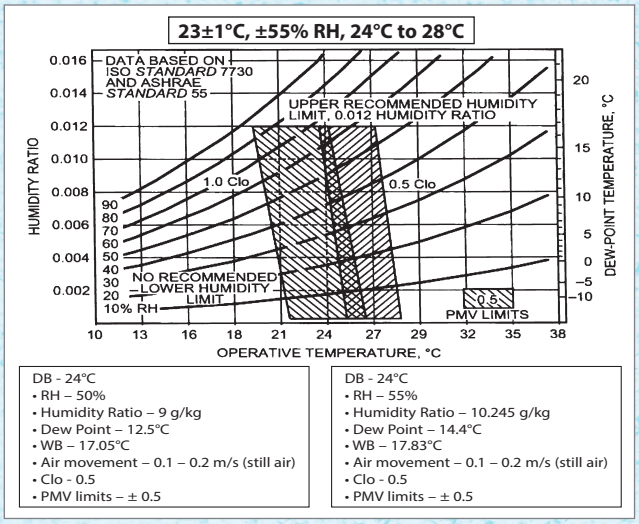

Figure 1: ASHRAE Comfort Chart

The Predicted Percent Dissatisfied (PPD) of 10% corresponds the PMV range of ± 0.5 and even with PMV equal to '0', about 5% of the people are dissatisfied. The PMV range of ± 0.5 represents the Neutral Zone. The location of the ASHRAE comfort point is in the middle of the Neutral Zone. **Predicted Mean Vote (PMV)** index predicts the mean response of a large group of people according to ASHRAE Thermal Sensation Scale.

Graphical Comfort Zone Method Acceptable Range of Thermal Conditions

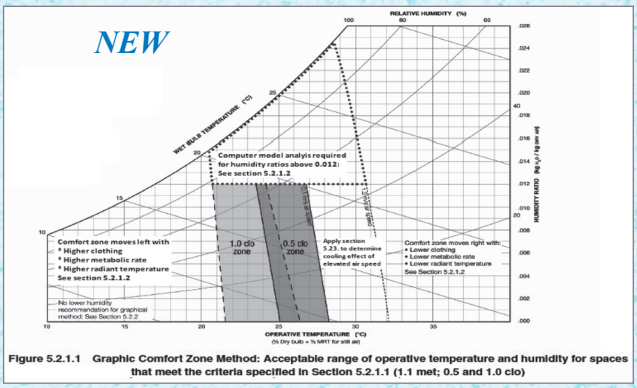

Figure 5.2.1.1 Graphic Comfort Zone Method: Acceptable range of operative temperature and humidity for spaces that meet the criteria specified in Section 5.2.1.1 (1.1 met; 0.5 and 1.0 clo)

Figure 2

*(All figure nos. in the article are in **Blue**. Other figure references are taken from Standard 55-2010)*

Effective Temperature is the temperature of a still, saturated atmosphere, which would, in the absence of radiation, produce the same effect as the atmosphere in question. It thus combines the effect of DBT and RH. Widely used index for 50 years.

Corrected Effective Temperature (CET) includes air velocity effects in addition to DBT, radiation effects & RH.

Elevated Air Speeds

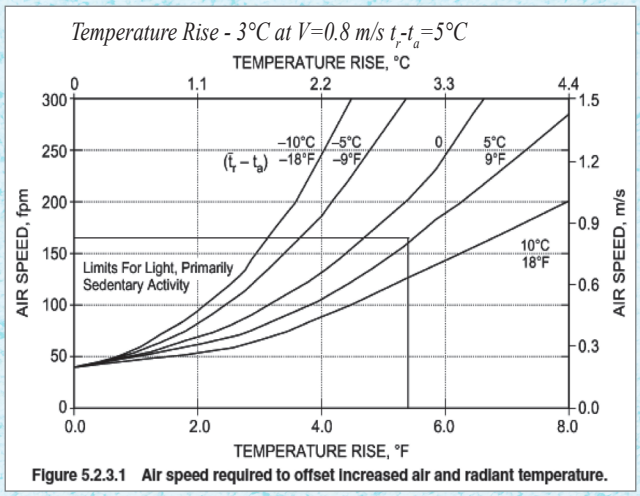

Figure 5.2.3.1 Air speed required to offset increased air and radiant temperature.

Figure 3

New Effective Temperature (ET*) is the temperature (DBT) of a uniform enclosure at 50% relative humidity, which would produce the same net heat exchange by radiation, convection and evaporation as the environment in question. ET* lines coincide with DBT values at the 50% RH curve. Radiation is taken into account by using OT on the horizontal scale instead of DBT.

Acceptable Range of Operative Temperature and Air Speeds

Operative Temperature (OT) is the average of MRT and DBT weighted by their respective transfer coefficients.

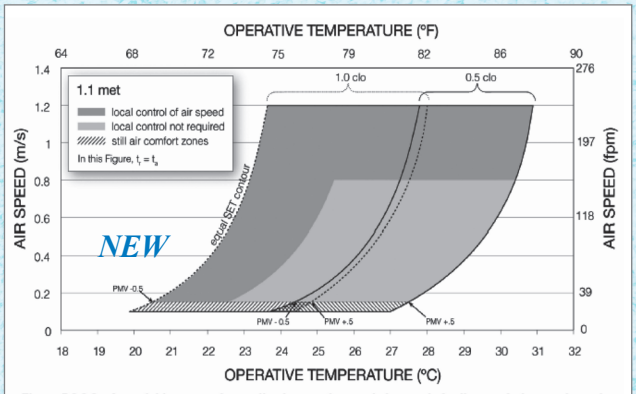

Figure 5.2.3.2 Acceptable range of operative temperature and air speeds for the comfort zone shown in Figure 5.2.1.1, at humidity ratio 0.010.

- MRT – Mean Radiant Temperature ; simple assumption($t_a + t_r$)/2; t_a=t_r if MRT-t_a is < 5°C
- h_r – Radiative heat transfer co-efficient
- h_c – Convective heat transfer co-efficient
- t_r – Radiant temperature
- t_a – Ambient temperature

$$OT = \frac{h_r MRT + h_c DBT}{h_r + h_c}$$

where h_r and h_c are radiation and convection coefficients

Figure 4

The 3rd Compliance Path - ACS

Adaptive Principle – The Variable Temperature Standard

The Adaptive Principle is – if a **change** occurs such as to produce discomfort, people **react** in ways which tend to restore their comfort. The restored comfort temperature will not be the same as its value before the **change.**

The comfort temperature is thus a result of interaction between the subjects and the building or the other environment they are occupying.

Note the comfort zone for summer - 24°C to 35°C = 11°C (28.3+3.5+3.2). Compare this with 24°C to 28°C = 4°C.

Proportion of subjects comfortable depends on mean indoor temperature. This in turn depends on the outdoor temperature.

There is more 'forgiveness' of buildings in which occupants have more access to building controls, i.e. the attitude of the occupants to the building is affected so that they will overlook shortcomings in the thermal environment more readily.

Adaptation also occurs due to history in the preceding day/hours.

Kind of building is a factor.

21,000 sets of raw data compiled from field surveys in 160 buildings.

- Buildings located in 4 continents in a variety of climatic zones
- Buildings include both (centralized) HVACR buildings and NV (Naturally Ventilated) buildings

Measurements of temperature and humidity are made but none like skin temperature, body temperature etc. No restrictions on dress, movement, positions... researcher intervention minimum In other words, it is measurement in **real life situations**.

Comfort temperature is no longer fixed temperature; It is now a result of a bargain (interaction) between the occupant and the environment. It is a *Variable Temperature Approach*.

Comfort Temperature Related to Mean Indoor Temperature

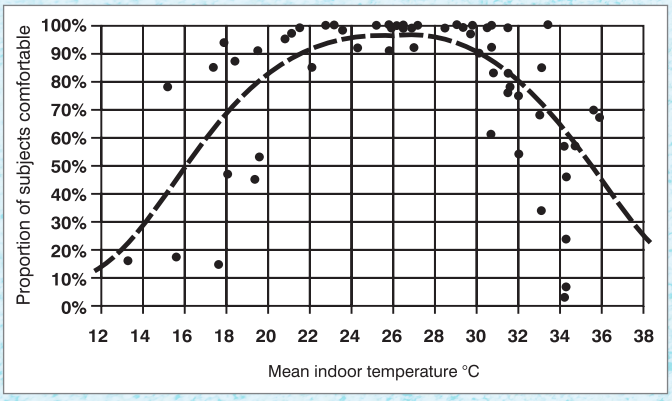

Figure 5: *Pakistan – the proportion of office workers who were comfortable at different indoor temperatures. It will be noticed that on many occasions the subjects recorded no discomfort. With a continually changing indoor temperature and comfort temperature Pakistani buildings were found comfortable at temperatures ranging between 20 and 30°C with no cooling apart from fans (from Nicol et al 1999).*

Tolerance to Temperature Variations – HVACR Buildings Vs NV Buildings

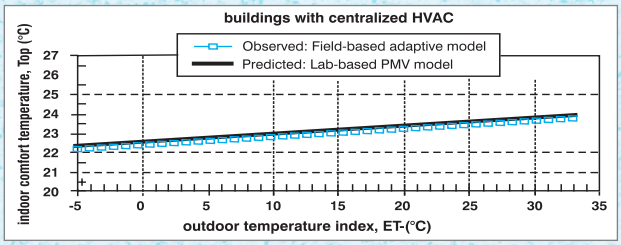

Figure 6a: Observed and predicted indoor comfort temperatures from RP-884 database, for HVAC buildings

HVACR buildings - more fine, narrow, constant conditions typically provided by mechanical conditioning

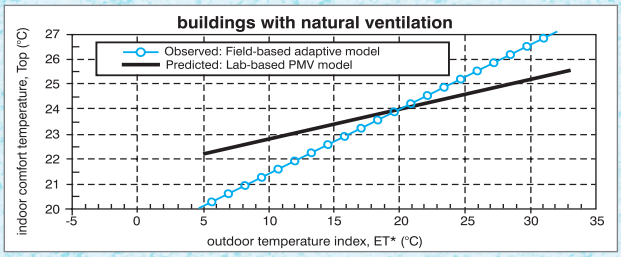

Figure 6b: Observed and predicted indoor comfort temperatures from RP-884 database, for naturally ventilated buildings

NV buildings, a wider range of conditions reflecting outdoor climate patterns

Mean Interior Temp. Vs Comfort Temp.

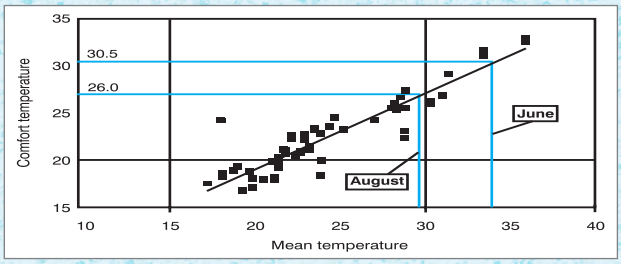

Figure 7: *Mean interior temperature (°C) vs. comfort temperature (°C)*

Comfort Temperatures for Islamabad

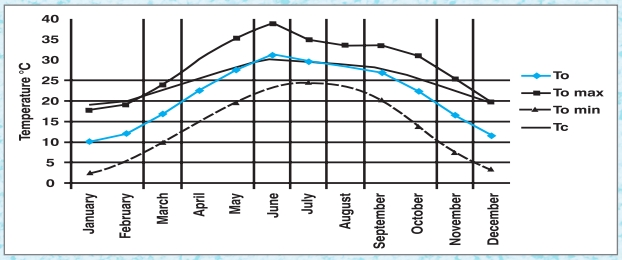

Figure 8: *Comfort Temperature of Islamabad, Pakistan. Note that T_c=30°C for T_o max = 38°C (in June – peak summer)*

Comfort temperature is not fixed - it depends on many factors - outdoor temperature, mean indoor temperature, kind of building, adaption, forgiveness...

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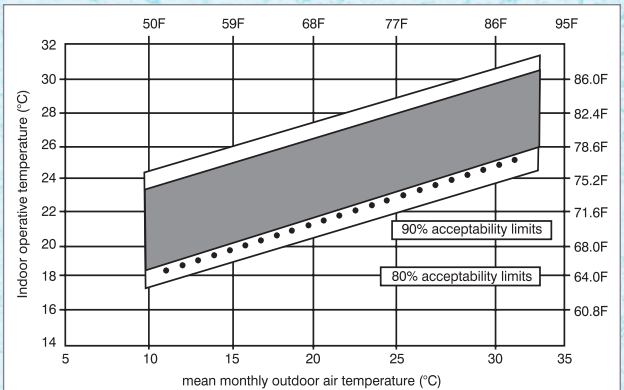
The Trade Mark ACS Chart - GCZM, CMM and ACS Compared; The Magic of Air Movement....



Comfort temperature (same as operative temperature which may be assumed equal to DBT in most cases) as a function of mean monthly outdoor air temperature. Adjust for air movement to raise it above chart values.

Acceptable operative temperature ranges for naturally conditioned spaces.

Figure 9

Some Big Names in ACS

Brager, G, S.,	UC Berkeley
de Dear, R.	UC Berkeley
Michael A Humphreys	Oxford Brookes University, UK
J. Fergus Nicol	Oxford Brookes University, UK
Andris Auliciems	University of Queensland, Brisbane
Steven V. Szokolay	University of Queensland, Brisbane
C. P. Yaglou	United States
Baruch Givoni	United States

List not exhaustive

Magic of Air Movement

How air movement (velocity) is perceived?

- < 0.25 m/s unnoticed (stationery air)
- 0.25-0.50 pleasant
- 0.50-1.00 awareness of air movement
- 1.00-1.50 draughty
- > 1.50 annoyingly draughty

Perceptions shown apply to cooling situation

The perceptions "draughty and annoyingly draughty" are subjective.

Those who are acclimatized to warmer ambient will accept higher limits for these perceptions of acceptability and annoyance.

Air movement increases

- Sensible cooling power of air (by raising Sensible Heat Transfer Co-efficient)
- Latent cooling (by raising Evaporative Heat Transfer Co-efficient)

Apart from latent cooling due to higher values of Evaporative Heat Transfer Co-efficient attained, air movement achieves further cooling by removing the film of saturated air that would otherwise blanket the body surface. Thus, the escape path (larger surface) for further evaporation becomes available.

This escape path for further evaporation is opened. This process is one of several others that combine to provide the "Physiological Cooling Effect".

Compliance Paths and Comfort Temperatures/Zones – GCZM, CMM & ACS

Application	Graphic Computer Zone Method (GCZM)	Computer Model Method (CMM)	Adaptive Comfort Standard (ACS)
	Air Conditioning for Typical Areas	Air Conditioning for General Areas	For Naturally Conditioned Spaces
met	1.0 - 1.3	1.0 - 2.0	No limitations
clo	0.5 - 1.0	upto 1.5 clo	No limitations
Acceptability	80%	0.5<PMV<+0.5 and PPD < 10	80% for typical applications 90% for higher comfort levels
Dissatisfaction	10% for general (whole body) thermal discomfort + 10% for local thermal discomfort	*Table No. 5.2.1.2* not shown. See text	See the trademark *Figure 5.3* of ACS (for NC spaces) for acceptable temp.
Air speed	> 0.2 m/s (40 fpm)	> 0.2 m/s	No air speed limits
	Limit is 0.8 m/s but with clo value between 0.5 & 0.7 and MET values between 1.0 & 1.3 speed can be even higher when using SET method	For using higher speeds, use *Figure 5.2.3.1*	
Humidity–UpperLimits	HR<0.012 kg/kg	No limits	No limits
Remarks	Restricted Comfort Zone, but involves only minimum calculations	Comfort Zone expanded (though only slightly elaborated and complex) computerized calculations involved	Comfort Zone expanded substantially

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From Foreword to Standard 55-2010: the way Standard 55 came to be what it is today

Changes in 55-2004

- CMM — for general indoor application introduced
- ACS — for NC spaces introduced

ACS supports NV designs for more sustainable, energy efficient and occupant friendly designs

Note that the terms "Sustainable", "Energy Efficient" and "Occupant Friendly" are phrases that were not there in Standard 55-2004.

Standard 55-2010 introduced elevated air speeds to widen the acceptable range of thermal conditions. Also, working with variable air speeds was introduced and refined.

In CMM, increase in comfort temperature beyond the PMV-PPD limits as a function of air speed and turbulence intensity was achieved, but such increase was modest; practical studies showed that greater air speeds were preferred to lower air speeds in certain combinations of temperature ranges and personal factors.

Addenda to *Standard 55-2004* has a new method for expressing and selecting air speed limits and alternatives for determining in boundaries of comfort at a speeds above 0.15 m/s. With these changes, the standard continues focus on defining the range of indoor thermal environmental conditions acceptable to a majority of occupants but accommodates an ever increasing variety of design solutions both to provide comfort and to respect today's imperative for sustainable buildings.

Thus, for the first time, the terms and concepts of sustainable buildings, energy considerations and enlarging boundaries of comfort have been introduced in *Standard 55*.

A new general satisfaction survey has been introduced for Adaptive Comfort Approach. The approach is best illustrated by a shift from 'comfort at a point in time' ***(e.g., how do you feel right now?) to evaluation of 'overall comfort in space' (e.g. "How do you feel in general?")***

Upper humidity limits shown apply only to the Graphic Comfort Zone Method. They can be higher if CMM is adopted.

No limits at all in the Adaptive Model.

Also in Adaptive Model, SET is introduced as a measure of cooling effect of air movement. Personal control limitations have been relaxed based on the basis of new research. This change is expected to give clear requirements for applications of ceiling fans for comfort cooling.

Systems to benefit from "accommodations" in 55-2010 could well be those in which cooling depends on the lowest temperatures achievable from the available source of cooling. Playing with ΔT in systems which cool essentially by convection, (e.g. evaporative cooling, daytime ventilation, night ventilation system etc., in contrast to radiative cooling, for instance) will help ventilation systems to provide comfort in hotter ambient conditions, optimize plant selection and sizing. Likewise, use of elevated air speeds will stretch the application of such systems. 55-2010 is more inclusive and will help expanding applications of low energy cooling systems in general. ***Introduction of ceiling fans in low energy systems is now recognised by Standard 55-2010****. These age old devices with a hoary past are now legitimized. Standard 55-2010 thus provides a rational basis for a large number of low energy and passive cooling systems, many of which have been in use for a long time.*

Foreword to ASHRAE Standard 55-2010 This Foreword is Different From Earlier Versions

FOREWORD - 1992

ANSI/ASHRAE Standard 55-1992, Thermal Environmental Conditions for Human Occupancy, is a revision of Standard 55-1981. The standard specified conditions in which 80% or more of the occupants will find the environment thermally acceptable. The revision is a consensus standard that has undergone public and ASHRAE review; it incorporates the relevant research and experience gained since the 1981 version. Principal additions include an expaned definitions section, expanded information on clothing insulation, measurement periods and locations, discomfort due to drafts, and an undated bibiligraphy. This standard is in close agreement with ISO Standards 7726[a] and 7730[b].

FOREWORD - 2004

Standard 55-2004, "Thermal Environmental Conditions for Human Occupancy," is a revision of Standard 55-1992. The standard specifies conditions in which a specified fraction of the occupants will find the environment thermally acceptable. The revision is a consensus standard that has undergone public and ASHRAE review; it incorporates the relevant research and experience gained since the 1992 revision. Such changes include the addition of the PMV/PPD calculation methods and the concept of adaptation. The standard is intended for use in design, commissioning, and testing of buildings and other occupied spaces and their HVAC systems and for the evaluation of thermal environments. Because it is not possible to prescribe the metabolic rate of occupants, and because of variations in occupant clothing levels, operating setpoints for buildings cannot be practically mandated by this standard.

The designer may choose, in agreement with the owner or owner's representative (e.g., owner's agent, developer, or equivalent), the level of thermal comfort and appropriate exceedance. The selected design criteria will influence the HVAC system design and may also influence the building design. This standard may also be used for evaluation of existing thermal environments in buildings, during experimental conditions, and for the development and testing of products.

This standard is in close agreement with ISO Standards 7726[1] and 7730[2].

FOREWORD - 2010

ANSI/ASHRAE Standard 55-2010 is the latest edition of Standard 55. The 2010 edition combines Standard 55-2004 and the ten approved and published addenda to the 2004 edition into one easy-to-use, consolidated standard

The standard outlines conditions in which a specified fraction of the occupants will find the environment thermally acceptable. The standard is intended for use in design, commissioning, and testing of buildings and other occupied spaces and their HVAC systems and for the evaluation of thermal environments. Because it is not possible to prescribe the metabolic rate of occupants, and because of variations in occupant clothing levels, operating setpoints for buildings cannot practically be mandated by this standard.

Standard 55 was first published in 1966 and republished in 1974, 1981, and 1992. Beginning in 2004, it is now updated on a regular basis using ASHRAE's continuous maintenance procedures. According to these procedures, Standard 55 is continuously revised by addenda that are publicly reviewed, approved by ASHRAE and ANSI, and published and posted for free on the ASHRAE Web site.

As with previous updated editions of the standard, the 2004 edition introduced significant changes. Perhaps most notable were (1) the adoption of the computer model method for general indoor application, which brought the standard into close agreement with ISO Standards 77261 and 77302, and (2) the introduction of the Adaptive Method, which relied on recent research to support natural ventilation designs for more sustainable, energy efficient, and occupant-friendly designs.

Continuing in this spirit of introducing recent research innovations into the standard, several significant improvements have been made in the years since 2004. In particular, the use of elevated air speeds to widen the acceptable range of thermal conditions has been introduced and refined.

The 2010 edition of the standard includes the following significant changes:

- *Clarifies that the upper humidity limit shown on the psychrometric chart in the Graphic Comfort Zone Method applies to only that method. Higher humidity limits are allowed if evaluated with the Computer Model Method and no limits are imposed on the Adaptive Model.*
- *Revises requirements and calculation methods when increased air movement is used to maintain comfort in warm conditions. Standard Effective Temperature (SET) is reintroduced into the Standard as the calculation basis for determining the cooling effect of air movement. In general, the calculation method has been simplified with the removal of turbulence intensity and draft risk calculations, and the personal control limitations have been relaxed based on the results of new research. This change is expected to give clear requirements for application of ceiling fans for comfort cooling.*
- *Significant revisions to Section 6, "Compliance" that now clearly state the mandatory minimum requirements for analysis and documentation of a design to show that it meets the requirements in the standard. Informative Appendix G expands on Section 6 by providing a compliance form for documentation of design compliance.*
- *A new general satisfaction survey has been added to section 7.5.2.1 as a method to evaluate thermal comfort in occupied spaces. The previous survey in the 2004 version of the standard was meant for evaluating comfort at a point in time (e.g., "how do you feel right now?"), and the new survey is meant to evaluate the overall comfort of a space (e.g., "how do you feel in general?"). Addition of a general satisfaction survey aligns standard 55 with current practice for survey-based post occupancy evaluations (POEs).*
- *Editorial changes have been made throughout to clarify the requirements in the standard. Wherever possible, the use of informative language in the standard is avoided.*

The growth from a single paragraph in foreword to version 1992, 3 paragraphs in foreword to 2004 version and to 6 paragraphs (the last one with 5 bullets and the landmark ACS chart) is a measure of winds of change that the 2010 version unveils.

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More About Benefits of Adaptive Approach

SET Introduced for Calculation of Cooling Effect of Air Movement

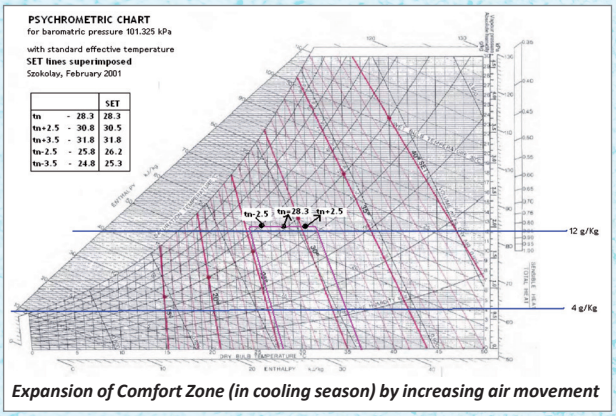

Figure 10: *Comfort temperature on Psychrometric Chart with SET lines superimposed*

Standard Effective Temperature (SET) is a sub-set of ET* under standardized conditions: clothing standardized for given activities (thus the effective heat transfer coefficients h's and h'es). The process of standardization was continued in terms of metabolic rate and clothing, and it was established that an inverse change of clo can compensate for an increase of met.

Energy Savings by Adaptive Comfort Approach The Mixed Mode System Way

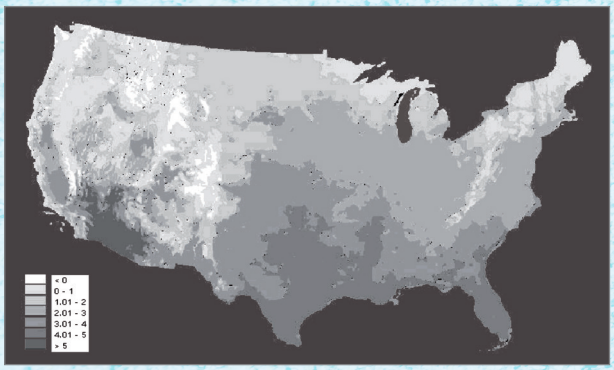

Figure 12: *Comparison of recommended indoor comfort temperatures, upper limits of ACS vs. ASHRAE Standard 55. Darker areas indicate larger differences between set point temperatures and therefore larger energy savings*

"The Design Solutions" that Benefit from the Third Compliance Path (ACS)

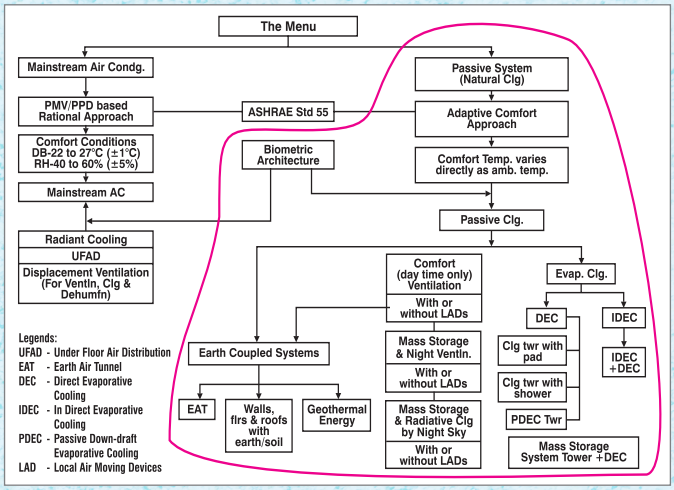

Figure 11: *Availability of Passive Cooling Systems*

55-2010 offers three paths of compliance. The first two paths deals essentially with air conditioning (the fixed temperature concept) and are paths with which engineers have been familiar for decades. The Adaptive Approach, on the other hand, addresses Naturally Conditioned (NC) spaces. Nevertheless, the slant is on Mixed Mode Systems in *Standard 55-2010*. Such systems combine several comfort cooling strategies including, of course, largely air conditioning. The ACS has been accommodated in the Standard apparently; however, more to reduce air conditioning plant capacity in whole buildings, rather than to provide cooling for NC spaces (for whole buildings). Now that *Standard 55-2010* takes "Natural Ventilation Designs" in its fold via NC spaces, owners, architects and developers can identify areas in which cooling is required but not air conditioning; their next step will be to demand compliance with 2010. One can therefore visualize the urgency of the need for HVACR engineers to get familiar with the concepts of Adaptive Approach and low energy air conditioning systems including Passive Cooling Systems. Worthy of note is that evaporative cooling, ventilative cooling (day, day and night and night only) can now gain admission into mainstream HVACR via *Standard 55-2010*.

Improving Comfort Conditions for those whom Elitist Approach Cannot Touch

Standard 189.1 was driven by the scenario prevailing in the United States, a country in which people are already enjoying relatively high and conspicuously lavish lifestyles. There is no deliberate and focused approach on ways of reducing consumption levels, instead the approach remains elitist. On the other hand, our standard of living is far below them and our approach ought to be governed by the consideration that there will be different tiers of standards of living amongst us and that there will be – naturally - problems of other kind – which need specific attention. There is therefore scope for us to take the ASHRAE model and, if necessary, change the comfort temperatures to suit our own requirements. ***(India – incidentally – has not participated in any work pertaining to Standard 55)***. This will be extending the adaptive approach closer to its logical and final conclusion.

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What We Need To Do? - Challenges and Opportunities

Design Aids and Guides are Still Work in Progress, software essential but it is no panacea

Implementing the standard means being equipped with method of devising and designing passive (natural) cooling systems and, more inclusively, all low energy cooling systems. This requires high quality software. Much remains to be done in this regard even in the United States and North American countries. One such effort has been The ASHRAE Comfort Tool, but ASHRAE itself observes that Design Aides & Guides are still under preparation. In other words, they are still "work-in-progress". One must also understand that while software can be imported – as and when it becomes available - applying software without basic knowledge is not as beneficial as acquiring new knowledge. One cannot help recalling this quote from Auliciems & Szokolay:

Irrespective of the strategies adopted, the results of calculations and graphic analyses must be mitigated by human intelligence and not slavishly accepted in a mechanistic way.

Software can also be developed in our own country provided there is an understanding and appreciation of the requirement and necessary will power to undertake the task.

Flow Diagram for Standard 55-2010 and 189.1-2009

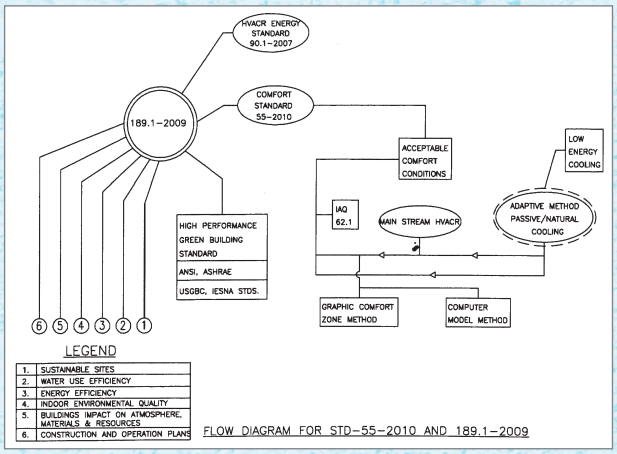

Figure 13: The HVACR elements, though shown contributing to the hub on the left,are entering through the six factors.

What do we need to do – NOW - AND FOR OURSELVES?

Thus, ASHRAE is reinventing itself. Indian thinking in air conditioning has largely been influenced by ASHRAE so far. Questions like - Do we therefore follow the ASHRAE model, once we identify what that model is and study it in detail? Does it need to be modified to suit our requirements? Whatever the answers, we need to find them and then go about implementing them. Now is the time to get started on this process and get going.

What is the Best Path Forward?

About the necessity for new knowledge and related issues in the context of implementation of *Standard 189.1-2009* (of which *Standard 55-2004* – and by implication, *Standard 55-2010*, forms a part, Kent W. Peterson, Past President, ASHRAE ends one of his presentations "Standard for the Design of High-Performance Green Buildings" this way –

What is Your Best Path Forward?

"Begin to understand the impact of these ***new requirements on your business*** *and* ***technical expertise.***

Identify *what requisite* ***skills*** *and* ***knowledge*** *you will need once this standard and green codes are implemented".*

This path is indeed tough; but nevertheless, one that has to be taken.

The Challenge of Delivering High Performance Green Buildings

Standard 55-2010 - like in fact HVACR itself, is just one factor out of six considered (in the LEED rating system) viz., a) Sustainable Sites, b) Water Use Efficiency, c) Energy Efficiency, d) Indoor Environmental Quality, e) Building's Impact on the Atmosphere, Material & Resources and f) Construction and Operations Plans that *Standard 189.1* deals with in its endeavors to maximize sustainability.

Standard 189.1-2009 is an ANSI/ASHRAE/USGBC/IESNA Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings. It appears, however that today, building owners and users are demanding that their buildings should provide better performance than has been delivered in the past. Government and private owners have mandated that new buildings and building retrofits be designed, constructed, tested, commissioned and operated to a high performance standard. ASHRAE notes that to date, the industry has not been able to consistently deliver on this mandate even in the US. If this is a challenge in the US, isn't it more so in our country?

This is some food for thought for all of us. Please see "Rebranding ASHRAE" in the next page.

HVACR's share of the burden is 100% but gain is minuscule ?

Standard 189.1 is sponsored by four parties but it is ASHRAE that has taken all the initiatives on its own. Its not just performance in HVACR that they now plan to provide, but the sustainable building itself in which HVACR is but one of the several factors and disciplines involved. ASHRAE – and by implication – the HVACR industry is responsible for the entire *Standard 189.1*. The challenge for the HVACR industry is all the greater. To be sure, ASHRAE is responding to this situation. It has rebranded itself (Presidential mail of 22nd Jan 2012). Its logo has been changed. The new tagline is "Shaping Tomorrow's Built Environment Today". ASHRAE is now doing business as "ASHRAE" and is not using full legal name of "The American Society of Heating, Refrigerating and Air-Conditioning Engineers".

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ASHRAE and Green Buildings

Rebranding ASHRAE

My fellow ASHRAE members,

I have some exciting news to share regarding a rebranding of our great Society. For more than 100 years, ASHRAE has provided guidance for HVAC&R. As time and technology have changed, so has ASHRAE, moving from focusing solely on HVAC&R to providing guidance for total building design, reconstruction, construction and operation.

In recognition of this evolution, ASHRAE is making some changes regarding how we brand the Society. The new ASHRAE brand supports our focus on improving engineering standards and our market position as a community of engineers and related professionals united by knowledge, mission and a code of ethics to design, construct and operate better places for people to live, work and play.

First, and most visible, is a refreshening of the ASHRAE logo. Market research showed us that the logo had a dated brand presence and that we needed a more modern look that fully reflects the evolving structure of the Society and our aspirations. Along with this logo, we have created an ASHRAE Logo Guide document to ensure that we maintain a consistent brand image.

In addition, we have created a tagline to help explain to outside audiences the expanded role of ASHRAE in the world around us. "Shaping Tomorrow's Built Environment Today" presents ASHRAE as the dynamic and innovative Society it is today and promises our members, the industry and the world that whatever the future brings in the built community, ASHRAE will be at the forefront for research and guidance.

Lastly, we are doing business as "ASHRAE" vs. using our full legal name of the American Society of Heating, Refrigerating and Air-Conditioning Engineers. Use of ASHRAE reflects our global membership and that our services will continue evolving globally.

Thank you.

Ron Jarnagin
2011–12 ASHRAE President
(This is a condensed version of ASHRAE President's mail)

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