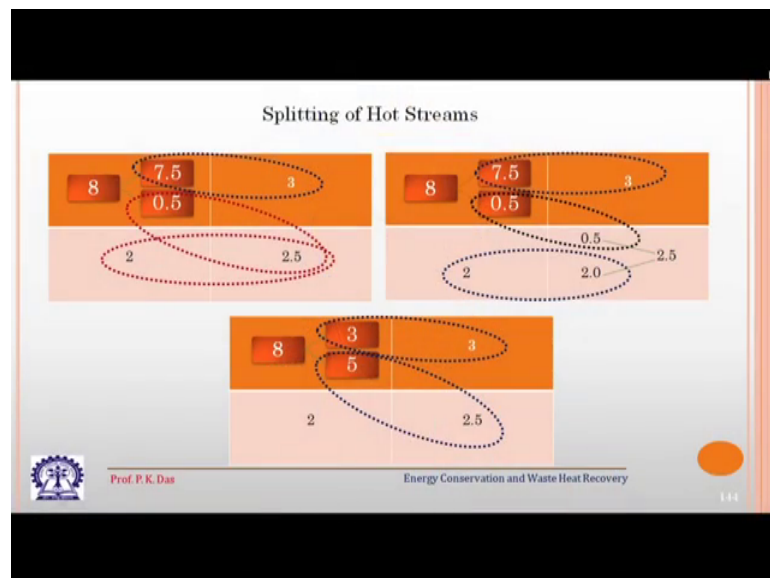


Energy Conservation and Waste Heat Recovery
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Lecture - 36
Corrigendum

So, while doing the corrigendum design of the heat exchanger network.

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We could see that we do not have any alternative, but we have to go for splitting these streams. So, generally in the cold end the hot stream is split and hot stream there are 2 hot stream and the properties are given 8 and 2; the 8 is having a quite large value. So, let us think of splitting it and if we split it let us say we are splitting it into 7.5 and 0.5, then 7.5 that matches very well with 3 because 7.5 is higher compared to 3 which is the cold stream, but 0.5; it does not match with the another stream another cold stream which is a 2.5.

Similarly, the hot stream which is their with the value CH value of 2 that also does not match with 2.5. So, this stream splitting is not very effective. So, let us again think another kind of a another stream splitting that 8 is divided into 3 and 5. So, 3 is equal to the cold stream CH 3. So, this match is possible and five is larger than cold stream 2.5 CH value of cold stream 2.5.

So, this match is also possible. So, this is one possible solution that we the stream 8 that can be divided into 2 two streams and both these stream should be selected in such a way. So, that either they are higher or equal to the value of CH of the 2 cold streams another kind of splitting is possible here what we are doing we will see that 7.5 and point five initially we have split the hot stream with CH value 8 and then 7.5 matches with 3, but point five does not match with 2.5.

So, the cold stream also we can split now we are splitting the cold stream at point five and two. So, this point five matches with point five and 2 which is remaining of the cold stream that matches with another hot stream whose CH value is 2. So, this is also one match possible.

Now you see this gives lot of flexibility, but exactly how we have to split not only we have to obey the pinch rules, but also we have to we have to consider the tick off geometry. And when we will take up this problem in the next slide then we will see how exactly the CH values should be split to have the tick off logic correctly. So, one thing we get from here that splitting is necessary. Then I have shown to different possibilities of feasible split there could be other possibilities.

With this we will go to the next stage of the problem where we will exercise the tick off geometry and exactly sorry tick off logic and exactly what kind of split is needed that we will find out.